ДОКЛАДЫ
АКАДЕМИИ НАУК СССР

SOVIET PHYSICS

"Doklady"

VOLUME 1 — INDEX

A Translation

of the

"Physics Section"

of the

Proceedings of the Academy of Sciences of the USSR

(RUSSIAN ORIGINAL VOLUMES 106-111)

Published by the
AMERICAN INSTITUTE OF PHYSICS
INCORPORATED

SOVIET PHYSICS
"Doklady"

A translation of the "Physics Section" of the Proceedings of the Academy of Sciences of the USSR.

A publication of the

AMERICAN INSTITUTE OF PHYSICS

Governing Board

ALLEN V. ASTIN
WALTER S. BAIRD
JESSE W. BEAMS
HANS A. BETHE
RAYMOND T. BIRGE
RICHARD H. BOLT
FRANKLIN D. DEXTER
IRVINE C. GARDNER
SAMUEL A. GOUDSMIT
CHARLES KITTEL
HUGH S. KNOWLES
WINSTON E. KOCK
R. BRUCE LINDSAY
WILLIAM F. MEGGERS
WALTER C. MICHELS
R. RONALD PALMER
ROBERT F. PATON
JOSEPH B. PLATT
RALPH A. SAWYER
HENRY D. SMYTH
MARK W. ZEMANSKY

Officers and Staff

FREDERICK SEITZ
Chairman, Governing Board
ELMER HUTCHISSON
Director
HENRY A. BARTON
Associate Director
WALLACE WATERFALL
Executive Secretary
MARK W. ZEMANSKY
Treasurer
THEODORE VORBURGER
Advertising Manager
RUTH F. BRYANS
Publication Manager
KATHRYN SETZE
Assistant Treasurer
ALICE MASTROPIETRO
Circulation Manager
EUGENE H. KONE
Director of Public Relations

American Institute of Physics Advisory Board on Russian Translations

ROBERT T. BEYER, *Chairman*

FREEMAN DYSON, DWIGHT GRAY, MORTON HAMERMESH, VLADIMIR ROJANSKY

Advisory Editor, Soviet Physics—"Doklady": VLADIMIR ROJANSKY, Ramo-Wooldridge Corporation, Los Angeles, California

SOVIET PHYSICS—"Doklady" is a bi-monthly journal published by the American Institute of Physics for the purpose of making available in English reports of current Soviet research in physics as contained in the "Physics Section" of the Proceedings of the Academy of Sciences of the USSR. The Proceedings appears thirty-six times per year and the "Physics Sections" are accumulated and English translations of them are published in six issues per year.

Transliteration of the names of Russian authors follows the system employed by the Library of Congress.

This translating and publishing project was undertaken by the Institute in the conviction that dissemination of the results of research everywhere in the world is invaluable to the advancement of science. The National Science Foundation of the United States encouraged the project initially and is supporting it in large part by a grant. Translation and printing are being handled by Consultants Bureau, Inc.

The American Institute of Physics and its translators propose to translate faithfully all of the scientific material in the "Physics Section" of the Proceedings of the Academy of Sciences of the USSR appearing after January 1, 1956. The views expressed in the translated material, therefore, are intended to be those expressed by the original authors, and not those of the translators nor of the American Institute of Physics.

One volume is published annually. Volume 2 will consist of six issues and will contain all scientific material published in the "Physics Section" of the original Russian journal during the 1957 calendar year.

Subscription Prices:

Per year (6 issues)	
United States and Canada	$25.00
Elsewhere	27.50
Back Numbers	
Single copies	$ 5.00

Subscriptions should be addressed to the American Institute of Physics, 335 East 45th Street, New York 17, New York.

Copyright by American Institute of Physics 1958

Soviet Physics – Doklady: Author Index for Vol. 1, 1956

(Russian Original Vols. 106-111, 1956, Physics Section, Proceedings of the Academy of Sciences of the USSR)

Abrikosova, I. I. (see Deriagin, B.V.) -280.

Adamov, M.N. and I.S. Milevskaia. Calculation of π-Electronic Polarizability of Polyenes and Benzene by the "Metallic" Molecular Model - 399.

Adirovich, E. I. and G.M. Guro. Characteristic Times of Electronic Processes in Semiconductors- 306.

Ado, Iu. and P.A. Cherenkov. Energy Distribution of Incoherent Radiation from Synchrotron Electrons - 517.

Agranovskaia, A.I. (see Smolenskii, G.A.)-300.

Airapetiants, S.V. (see Ioffe, A.F.) - 132.

Aivazian, M.T. (see Kocharian, N.M.) -209.

Akhiezer, A.I. and A.G. Sitenko. Diffractive Scattering of Fast Deuterons - 180.

Akimov, E.M. (see Korolev, F.A.) - 568.

Akulov, N.S. Theory of Magnetostriction of Nickel Single Crystals - 1.

– Theory of Ferro- Para- and Ferrimagnetism - 337.

Al'bitskaia, E.A. (see Sokolov, Iu. L.) - 773.

Aleksanian, A.S. (see Kocharian, N.M.) - 209.

Alpers, V. V., I.I. Gurevich and A.P. Mishakova. Positive Hyperon and Singly-Charged Hyper-fragment Decays - 272.

– I.I. Gurevich and L.V. Surkova. Observation of the Production and Decay of Unstable Particles in an Emulsion Chamber - 310.

Amatuni, A. Ts. (see Tiablikov, S.V.) - 266.

Andrievskii, A.I. and V.A. Zhuravlev. Relaxation of Photoconductivity in Stannic Oxide - 239.

Antonova, M.G. (see Takibaev, Zh. S.) - 666.

Arkhangel'skaia, V.A. and P.P. Feofilov. Luminescence Spectra of Some Iodides - 358.

Atakhodzhaev, A.K. (see Vuks, M.F.) - 496.

Baranovskii, V.I. (see Murin, A.N.) - 719.

Batov, V.V. (see Nikol'skii, S.N.) - 625.

Bazarov, I. P. Equations with Variational Derivatives and Distribution Functions for Systems with Complex Interaction - 520.

Beliaev, S.T. and G.I. Budker. Relativistic Kinetic Equation - 218.

Belov, K.P. and N.K. Panina. Spontaneous Lattice Deformations in Ferromagnetic Transitions- 732.

Bercha, S. (see Fridlender, E.) - 162.

Berezniak, N.G. and B.N. Esel'son. Spectrum of He^3 Dissolved in HE II - 645.

– (see Esel'son, B.N.) - 683.

Bezbatchenko, A.L., I.N. Golovin, D.P. Ivanov, V.D. Kirillov, and N.A. Iavlinskii. Effect of a Longitudinal Magnetic Field on Impulsive Gas Discharges with Large Currents - 640.

Biberman, L.M. and E.M. Novodvorskaia. Effect of Reabsorption on the Breadth of Spectral Lines - 5.

Blank, V. Z. Vertex Part at High Energies - 184.

– and D.V. Shirkov. Asymptotic Investigation of the Vertex Part in Quantum Electrodynamics- 752.

Blokhin, M.A. Instrumental Distortion of X-Ray Spectra - 165.

– True Shape of X-Ray Spectra - 145.

Bobovich, Ia. S., and V.M. Pivovatov. Effect of Intermolecular Interactions on First Order Raman Lines - 341.

Bogachev, N.P. Small Angle Elastic Proton-Proton Scattering at 460, 560, and 660 Mev - 361.

Bonch-Bruevich, A.M. Experimental Verification That the Velocity of Light is Independent of the Velocity of the Source with Respect to an Observer - 430.

Borgardt, A. Pseudoscalar Interaction in Nonlinear Meson Theory - 524.

Borovitskaia, N.M. Measurement of the Dynamical Modulus of Elasticity of Rubber for Very Small Deformations by an Optical Modulation-Interference Method - 493.

Brandt, I.V. (see Vereshchagin, L.F.) - 312.

Brodskii, A. Towards a General Theory of Meson Scattering - 701.

Budker, G.I. (see Beliaev, S.T.) - 218.

Burshtein, E.L. (see Solov'ev, L.S.) - 459.

Butslov, M.M. (see Zavoiskii, E.K.) - 743.

Butusov, Iu. M. (see Rapoport, L.P.) - 387.

Bykovskii, Iu. A. (see Kikoin, I.K.) - 473.

Chapnik, I.M. Theory of the Striated Positive Column - 199.

Cherenkov, P.A. (see Korotkova, V.A.) - 77, 104.

– (see Ado, Iu. M.) - 517.

Cherkasov, A. S., V. A. Molchanov, T. M. Vember and K.G. Voldaikina. Duration of Fluorescence in Mesoderivatives of Anthracene - 427.

Chernavskii, D.S. (see Feinberg, E.L.) - 354.

Chuvilo, I.V. (see Korotkova, V.A.) - 77, 104.

Deriagin, B.V. and I.I. Abrikosova. Direct Measurements of Molecular Attraction Between Solids in a Vacuum - 280.

– N.A. Krotova and V.V. Karasev. Electrical Phenomena in the Disruption Mechanism of Some Solids - 466.

Deriugin, L.N. and G. Kh. Fridman. Double-Reasonance Curves of a Reflection Grating - 761.

Dobrokhotov, E.I., V.R. Lazarenko and S. Iu. Luk'ianov. Search for Double Beta in Ca^{48}-600.

Dombrovskaia, T.N. (see Spivak, G.V.) - 9.
Dorfman, Ia. G. Diamagnetic Resonance in Strongly Magnetic Bodies - 534.
Dorman, L.I., N.S. Kaminer, V.K. Koiava and B.F. Shvartsman. Large Cosmic Ray Burst of February 23, 1956 as Observed at Moscow, Sverdlovsk, Tbilisi and Cape Schmidt - 364.
Drozdov, S.I. Fast Particle Absorption Cross Section of Semitransparent Nuclei - 37.
Dulkova, L.S., I.B. Sokolova and M. G. Shafranova. Scattering of Positive and Negative 300-Mev Pions by Hydrogen - 739.
– T. A. Romanova, I.B. Sokolova, L.V. Sukhov, K.D. Tolstov and M.G. Shafronova. Interaction of 300 Mev π^--Mesons with Protons, Deuterons and Nuclei in Nuclear Emulsions - 154.
Dunaev, Iu. A. (see Iuzefovich, A.A.) - 270.
Dunina, A.A. (see Shamovskii, L.M.)- 124,725.
Dushin, N. and I. Shmushkevich. Relations Between Cross Sections Which Result from the Hypothesis of Isotopic Invariance - 94.
Dushin, N.V. Relations Between Cross Sections for Multiple Pion Production - 128.
Dzhelepov, B.S. Equally Allowed Beta Transitions - 71.
Dzhelepov, V.P. and V.I. Moskalev. Total p-d Cross Section from 390 to 650 Mev. -565.
El'iashevich, N.A. (see Nikitina, O.N.) - 649.
Eliseev, G.P, V.A. Liubimov and A.M. Frolov. Primary Ionization by Fast Muons - 169.
Esel'son, B.N., N.G. Berezniak, and M. I. Kaganov. λ Point of Solutions of Helium Isotopes - 683.
– (see Berezniak, N.G.) - 645.
– (see Kliucharev, A.P.) - 475.
Fabelinskii, I. L. Relative Intensities of Fine Structure Components in Rayleigh Scattering of Light - 115.
– (see Motulevich, G.P.) - 81.
Fainberg, V. and E. Fradkin. Dispersion Relation for Fermions - 455.
Fanchenko, S.D. (see Zavoiskii, E.K.) - 285.
Feigin, L.A. and A.I. Shal'nikov. Critical Current in Thin Superconducting Films - 377.
Feinberg, E.L. and D.S. Chernavskii. Higher Approximations in the Self-Consistent Field Method of Meson Theory - 354.
Feofilov, P.P. (see Arkhangel'skaia, V.A.) - 358.
– (see Stepanov, I.V.) - 350.
Fesenko, E.G. (see Khodakov, A.L.) - 379.
Fiks, V. B. Measurement of Ion Masses by the Use of Electric Fields - 89.
Filippov, A. (see Kozodaev, M.) - 171.
Firsova, M.M. (see Zubov, V. G.) - 441.
Fisher, I. Z. (see Karpman, V. I.) - 765.
Florinskaia, V.A. (see Sevchenko, N.A.) - 508.
Fradkin, E. (see Fainberg, V.) - 455.
Frank-Kamenetskii, D.A. (see Gandel'man, G.M.)- 223.
Fridlender, E. and S. Bercha. Unusual V^0-Decay - 161.
Fridlender, E.M. Analysis of Some Anomalous θ^0 - – Decays - 140.
– Statistical Estimate of the Energy of Particles Which Generate Mixed Showers - 119.
Fridman, G. Kh. (see Deriugin, L. N.) - 761.
Frisman, E.V. and V.N. Tsvetkov. Flow Deformation of Macromolecules and its Effect on the Sign of the Dynamic Birefrigence of a Polymer in Solution - 12.
Frolov, A.M. (see Eliseev, G.P.) - 169.
Gandel'man, G.M. and D.A. Frank-Kamenetskii. Shock Wave Emergence at a Stellar Surface - 223.
Garber, R.I., I.V. Obreimov and L.M. Poliakov. Formation of Ultramicroscopic Inhomogeneities in the Plastic Deformation of Sodium Chloride - 314.
Garif'ianov, N.S. Hyperfine Structure of Paramagnetic Resonant Lines in Supercooled Solutions of $^{51}V^{++}$, $^{53}CR^{+++}$ and $^{55}Mn^{++}$ - 463.
Gavrilovskii, B.V., V. Ia. Golovnia, K.V. Karadzhev, A.P. Illiucharev, and V.I. Man'ko. Polarization of Low-Energy Protons Scattered by Carbon - 611.
– (see Moskalev, V. I.) - 607.
Gerasimova, R.I. (see Varfolomeev, A.A.) - 579,594.
Ginzburg, I.F. Departure from Weak Coupling in the Doubly-Charged Meson Field Theory - 560.
Ginzburg, V.L. Macroscopic Theory of Superconductivity for All Temperatures - 541.
– Nonionospheric Fluctuations of the Intensity of Radio Waves from Nebulae - 403.
Glauberman, A.E. Theory of Dipolar Crystals in an External Electric Field - 244.
– Theory of a Real Gas with Noncentral Particle Interaction - 615.
– and V.P. Tsvertkov. Structure of Simple Liquids - 68.
Gokhberg, B.M. (see Gorlov, G.V.) - 598, 705.
Gol'danskii, V. I., A.A. Koval'skii, V.S. Pen'kina and E.Z. Tarumov. Cross Sections of Inelastic Interactions Between 120 and 380 Mev Neutrons and Nuclei - 16.
– (see Govorkov, B.B.) - 735.
Golovin, I.N. (see Bezbatchenko, A.L.) - 640.
Golovnia, V. Ia. (see Gavrilovskii, B.V.) - 611.
Gorban', I.S. and A.A. Shishlovskii. Anomalous Dispersion of Light in Solutions of Dyes - 276.

– and A.A. Shishlovskii. Anomalous Dispersion of Light in the Simplest Solutions of Inorganic Compounds - 249.
Gorlov, G.V., B.M. Gokhberg, V.M. Morozov, and G.A. Otroshchenko. Measurements of the Li^6 (n,t) He^4 Cross Section for Neutrons with Energies from 9 to 700 Kev - 705.
– B.M. Gokhberg, V.M. Morozov and G.A. Otroshchenko. Total Cross Sections for the Interaction of Neutrons with Li^6 and Li^7 from 10 to 450 kev - 598.
Gorzhevskaia, E.G. and N.M. Panova. Photoproduction of Slow π^--Mesons in Complex Nuclei - 757.
Gosteva M.I. (see Shamovskii, L.M.) - 124, 725.
Govorkov, B.B., V. I. Gol'danskii, O.A. Karpukhin, A.V. Kutsenko, and V.V. Pavlovskaia. Elastic Scattering of Gamma Rays with Energy to 120 Mev by Protons - 735.
Gross, E.F., A.A. Kaplianskii, and B.V. Novikov. Exciton Structure of the Spectral Curves of the Photoconductive Effect in Crystals - 582.
– and B.P. Zakharchenia. Linear and Quadratic Zeeman Effects and Exciton Diamagnetism of Copper Oxide Crystals - 678.
Gurevich, I.I. Impossibility of Explaining the Stability of Hyperons by their Large Spins -152.
– (see Alpers, V. V.) - 272, 310.
Guro, G.M. (see Adirovich, E.I.) - 306.
Iakovlev, I.A., T.S. Velichkina and L.F. Mikheeva. Opalescence in the Phase Transition of Quartz - 215.
Iampol'skii, P.A. (see Morozov, A.M.) - 505.
Iashin, D.A. (see Komar, A.P.) - 260.
Iashin, N.M. (see Zimin, A.G.) - 419.
Iavlinskii, N.A. (see Bezbatchenko, A.L.) - 640.
Il'ina, V.A. and V.K. Kritskaia. Static Distortions of Crystals Determined by Different X-Ray Wave Lengths - 587.
Ingarden, R.S. New Type of Relativistically Invariant Linear Equation of a Localizable Field - 252.
Ioffe, A.F., S.V. Airapetiants, A.V. Ioffe, N. V. Kolomoets and L.S. Stil'bans. Increasing the Efficiency of Semiconductor Thermocouples - 132.
Ioffe, A.V. (see Ioffe, A.F.) - 132.
Isupov, V.A. (see Smolenskii, G.A.) - 300.
Itskevich, E. S. and P.G. Strelkov. Heat Capacity of Layer Lattices at Low Temperatures - 98.
Iuzefovich, A.A., D.N. Mirshanov and Iu. A. Dunaev. Visualization of Aerodynamic Streamline Flow Around Axially Symmetrical Bodies Through the Use of a Flat Layer of Colored Gas- 270.
Ivanenko, I. P. Cascade Curves from Electrons and Photons in Lead - 231.
Ivanenko, D. and M. Mirianashvili. Nonlinear Generalization of the Dirac Spinor Equation - 41.
Ivanenko, D.D. (see Sokolov, A.A.) - 658.
Ivanov, D.P. (see Bezbatchenko, A.L.) - 640.
Ivlev, V.F. (see Kirensky, L.V.) - 48.
Kagan, Iu. M. and V.I. Perel'. Ion Mobility and Space Charge in an Inhomogeneous Field -289.
Kaganov, M.L. (see Esel'son, B.N.) - 683.
Kaminer, N.S. (see Dorman, L.I.) - 364.
Kaplianskii, A.A. (see Gross, E.F.) - 582.
Karadzhev, K.V. (see Gavrilovskii, B.V.) - 611.
Karasev, V.V. (see Deriagin, B.V.) - 466.
Kard, P.G. Graphical Method of Calculation for Multilayer Films - 256.
Karpman, V.I. and I.Z. Fisher. Positron Annihilation in Metals - 765.
Karpova, L.A. (see Varfolomeev, A.A.) - 579, 594.
Karpovich, I.A. (see Vartanian, A.T.) - 675.
Karpukhin, O.A. (see Govorkov, B.B.) - 735.
Karpushkina, E.I. (see Sokolov, Iu. L.) - 773.
Kartuzhanskii, A.L. Regrouping of the Latent Image in the Photographic Action of Ionizing Particles- 421.
Kashaev, S.-Kh. G. Exchange Interaction in Some Paramagnetics - 546.
Kas'iankov, P.P. Some Problems of the Theory of Electron Beam Focusing - 367.
Kats, M.L. and B.Z. Semenov. Atomic Nickel Centers in NaCl-Ni Phosphors - 44.
Kel'man, V.M., R.Ia. Metskhvarishvili, V.A.Romanov, L.I. Rusinov, and K.A. Konoplev. Determination of Internal Conversion Ratios for the Isomeric Transition of In^{114} - 189.
Kerimov, B.K. (see Sokolov, A.A.) - 345.
Khalfin, L.A. Causality and the Criterion of Physical Realizability in Quantum Field Theory - 671.
Khodakov, A.L., M.L. Sholokhovich, E.G. Fesenko and O.P. Kramarov. Preparation and Dielectric and Optical Properties of Single Crystals of Solid Solutions of Barium and Strontium Titanates- 379.
Kikoin, I.K. and Iu. A.Bykovskii. Transverse Photomagnetic Effect in n- and p-type Germanium - 473.
Kirakosian, Z.A. (see Kocharian, N.M.) - 209.
Kireev, P.S. Fine Structure of He^3 II λ 4687 A Allowing for the Lamb Shift of the $nS_{1/2}$ Levels- 294.
– Isotopic Shift in the Spectrum of He II - 316.
– Relative Intensity of the Fine Structure Components of He II λ 4686 A - 74.

Kirensky, L.V. and V.F. Ivlev. Temperature Hysteresis of the Galvanomagnetic Effect - 48.
Kirillov, V.D. (see Bezbatchenko, A.L.) - 640.
Klimontovich, Iu. L. Determination of Eigenvalues of Physical Quantities by Means of a Quantum Mechanical Distribution Law - 383.
Klimova, L.A. (see Shpol'skii, E.V.) - 782.
Kliucharev, A.P., B.N. Esel'son and A.K. Val'ter. Study of the Reaction of He^3 with Deuterons - 475.
– (see Gavrilovskii, B.V.) - 611.
Kocharian, N.M., G.S. Saakian, M.T. Aivazian, Z.A. Kirakosian and A.S. Aleksanian. Nuclear Reactions of High Energy Protons in Copper -209.
Kogan, A.V. Neutron Emission from a Short-Lived Radon Active Deposit - 372.
Kolava, V.K. (see Dorman, L. I.) - 364.
Koliadin, A.I. Anomalous Scattering of Light in Glass - 406.
Kolomenskii, A.A. Effect of Quantum Fluctuations of Radiation on Electron Motion in Periodic Magnetic Systems - 192.
– Radiation from a Plasma Electron in Uniform Motion in a Magnetic Field - 133.
– and A.N. Lebedev. Effect of Radiation on the Motion of a Relativistic Electron in a Magnetic Field - 100.
Kolomoets, N.V. (see Ioffe, A.F.) - 132.
Koltypin, E.A. and V.M. Morozov. Upper Limit of the Radiation Capture Cross Section of 275 Kev Resonance Neutrons by Li^7 - 655.
Komar, A.P., M.V. Stabnikov and D.A. Iashin. Low Pressure Diffusion Chamber - 260.
Komel'kov, V.S. and Parfenov, D.S. Spark Channel Broadening in Air at about 2×10^6 Amperes - 769.
Kondorskii, E.I., A.S. Pakhomov and T. Shiklosh. Theory of the Spontaneous Magnetization of Ferromagnetic Semiconductors at Low Temperatures - 501.
Konoplev, K.A. (see Kel'man, V.M.) - 189.
Kornev, Iu. V. and E. Z. Vintaikin. Sublimation of Silver Studied with Radioactive Tracers and a Mass Spectrometer - 203.
Korolev, F.A. V.S. Markov, E. M. Akimov and O.F. Kulinkov. Experimental Investigation of the Angular Distribution and Polarization of Optical Radiation from Electrons in a Synchrotron - 568.
– and Iu. L. Osipov. Isotope Shift in the Spectrum of Neodymium - 549.
Korotkova, V.A., P.A. Cherenkov and I.V. Chuvilo. Fragment Energy Distribution from the Fission of Uranium and Thorium by γ-Rays - 104.
– P.A. Cherenkov and I.V. Chuvilo. Photofission Cross Sections of Uranium and Thorium - 77.
Korsunskii, M. I., Kh. L. Leviant and L.I. Pivorar. Application of the Detailed Balancing Ratio $\frac{\sigma_{12}\sigma_{31}\cdot\sigma_{23}}{\sigma_{21}\sigma_{13}\cdot\sigma_{32}} = 1$ to an Ion Beam of Fixed Composition - 206.
Kotliar, B. I. (see Vainshtein, E.E.) - 527.
Koval'skii, A.A. (see Gol'danskii, V.I.) - 16.
Kozodaev, M., R. Suliaev, A. Filippov and Iu. Shcherbakov. Diffusion Chamber Study of Negative Pion Scattering in Hydrogen - 171.
Kramarov, O.P. (see Khodakov, A.L.) - 379.
Krasil'nikov, V.A. (see Zarembo, L.K.) - 434,470.
Kristskaia, V.A. (see Ill'ina, V.A.) - 587.
Krotova, N.A. (see Deriagin, B.V.) - 466.
Kudrin, L.P. and B.A. Nikol'skii. Interactions of Fast Pions and Nuclei - 708.
Kulinkov, O.F. (see Korolev, F.A.) - 568.
Kuni, F.M. Dispersion Relation for Nucleon-Nucleon Scattering - 686.
Kurov, G.A., S.A. Semiletov, and Z.G. Pinsker. Investigation of Vacuum-Evaporated Single-Crystal Germanium Films - 604.
Kutsenko, A.V. (see Govorkov, B.B.) - 735.
Kuz'min, A.I., G.V. Skrypin, G.V. Tianutova and Iu. G. Shafer. Unusual Cosmic Ray Burst - 263.
Kuznetsova, L. A. (see Sveshnikov, B. Ia.) - 484.
Lazarenko, V.A. (see Dobrokhotov, E.I.) - 600.
Lebedev, A.N. (see Kolomenskii, A.A.) - 100.
Leviant, Kh. L. (see Korunskii, M.I.) - 206.
Levintov, I.I. Application of Fermi's Equation to the Polarization of Scattered Fast Nucleons - 175.
Levshin, L.V. Nature of Concentration Effects in Solutions of Acridinic Compounds - 296.
Liamshev, L.M. and S.N. Rudakov. Sound Reflection by a Thin Rod in Water - 530.
Lisitsa, M.P. Spectrophotometric Method of Investigating Dispersion and Absorption by Solids - 716.
Liubimov, V.A. (see Eliseev, G.P.) - 169.
Livshits, M.S. Intermediate System Formed During the Scattering of Elementary Particles - 712.
– Scattering Matrix of an Intermediate System -620.
Logunov, A.A. Spectral Representation and the Renormalization Group - 478.
– Vertex Part in Scalar Electrodynamics in the Large Momentum Region - 20.
– and B.M. Stepanov. Dispersion Relations for the Photoproduction of Pions - 552.
Lomsadze, Iu. M. Potential in Pair Theories of Nuclear Forces - 571.
Luk'ianov, S.Iu. (see Dobrokhotov, E.I.) - 600.
Manenkov, A.A. and A.M. Prokohorov. Fine and Hyperfine Structure of Paramagnetic Resonance in Bivalent Europium - 196.

Man'ko, V.I. (see Gavrilovskii, B.V.) - 611.
Markov, M. Note on the Systematization of Hyperons and Heavy Mesons - 107.
Markov, M.N. Bismuth-Lead Alloy Bolometer - 317.
Markov, V.S. (see Korolev, F. A.) - 568.
Mashkevich, V.S. and K.B. Tolpygo. Interaction of Vibrations of Nonpolar Crystals with Electric Fields - 690.
Matveev, A.N. Effect of Radiation on Betatron Oscillation in Strong-Focusing Synchrotrons - 211.
– Effect of Radiation on Synchrotron Oscillations under Strong Focusing - 321.
– Electron Motion in Cyclical Accelerators as a Stochastic Process - 443.
Meshcheriakov, M.G. Magnetic Analysis of the Reactions (I) $pp - np\pi^+$ (II) $pp - pp\pi^0$ and (III) $pp - d\pi^+$ at 660 Mev - 447.
Metskhvarishvili, R. Ia. (see Kel'man, V.M.)- 189.
Mikhailov, G.D. Distortion and Interaction of Acoustic Waves of Finite Amplitude in a Viscous Medium - 409.
Mikheeva, L.F. (see Iakovlev, I.A.) - 215.
Milevskaia, I.S. (see Adamov, M.N.) - 399.
Mirianashvili, M. (see Ivanenko, D.) - 41.
Mishakova, A.P. (see Alpers, V.V.) - 272.
Mirshanov, D.N. (see Iuzefovich, A.A.) - 270.
Molchanov, V. A. (see Cherkasov, A.S.) - 427.
– (see Sveshnikov, B. Ia.) - 484.
Motulevich, G.P., and I.L. Fabelinskii. Density Dependence of the Index of Refraction at Low Frequencies of Sound - 81.
Moroz, E.M. Cyclotron with Sectional Magnet - 326.
– Microton with Weak Phasing - 137.
Morozov, A.M. and P.A. Iampol'skii. Short-lived Isomers from Proton Bombardment - 505.
Morozov V.M. (see Gorlov, G.V.) - 598, 705.
– (see Koltypin, E.A.) - 665.
Moskalev, V.I. and B.V. Gavrilovskii. Total Cross Sections for the Interactions of 650 Mev Protons and Nuclei - 607.
– (see Dzhelepov, V.P.) - 565.
Murin, A.N., V.D. Nefedov, V. I. Baranovskii, and D.K. Popov, Enrichment of Radioactive Isotopes of Iodine, Germanium, Arsenic and Antimony by (γ, n) Reactions - 719.
Nikitina, O.N. and N.A. El'iashevich. Triplet-Quintet Transitions in the Atomic Spectrum of Silicon - 649.
Nikol'skii, B.A. (see Kudrin, L.P.) - 708.
Nikol'skii, S.N., Iu. N. Vavilov and V.V. Batov. Investigation of the N Component of Extensive Air Showers - 625.
Novikov, B.V. (see Gross, E.F.) - 582.
Novodvorskaia, E.M. (see Biberman, L.M.) -5.
Nozdrev, V.F. and V. D. Sobolev. Saturation Measurements of Ultrasonic Absorption in Ethyl Acetate Using an Impulse Method with Two Fixed Distances - 722.
Obreimov, I.V. (see Garber, R.I.) - 314.
Osipov, Iu. L. (see Korolev, F.A.) - 549.
Otroshchenko, G. A. (see Gorlov, G. V.) - 598,705.
Ovcharov, V.T. Axially Symmetric Electron Beams of a Given Shape - 158.
Pakhomov, A.S. (see Kondorskii, E.I.) - 501.
Panina, N.K. (see Belov, K.P.) - 732.
Panova, N.M. (see Gorzhevskaia, E.G.) - 757.
Parfenov, D.S. (see Komel'kov, V. S.) - 769.
Pavlovskaia, V.V. (see Govorkov, B.B.) - 735.
Pen'kina, V.S. (see Gol'danskii, V.I.) - 16.
Perel', V.I. (see Kagan, Iu. M.) - 289.
Piatnitskii, B.A. Phosphorescence Spectra of Some Aromatic Acids at the Temperature of Liquid Air - 451.
Pinsker, Z.G. (see Kurov, G.A.) - 604.
Pivovar, L. I. (see Korsunskii, M.I.) - 206.
Pivovatov, V.M. (see Bobovich, Ia.S.) - 341.
Podgornyi, I.M. X-Ray Emission at the Start of a Gas Discharge - 375.
Poliakov, L.M. (see Garber, R.I.) - 314.
Popov, Kiril A. Single Basic Equation in the Theory of Irreversible Thermodynamic Processes - 50.
Popov, D.K. (see Murin, A.N.) - 719.
Popovich, Andrei. Nonlinearity and Conformal Reciprocity - 628.
Potapov, L.I. and N.V. Shostakovich. Sea Level Spectra of Protons and π^--Mesons - 85.
Prokhorov, A.M. (see Manenkov, A.A.) - 196.
Rapoport, L.P. and Iu. M. Butusov. Theory of the Excitation Energy of Heavy Nuclei - 387.
Rautian, S.G. Measuring the Resolving Power of an Optical Instrument - 481.
Iu. N. Riabinin. Sublimation of a Crystal Lattice by a Strong Shock Wave - 424.
Romanov, V.A. (see Kel'man, V.M.) - 189.
Romanova, T.A. (see Dulkova, L.S.) - 154.
Rudakov, S.N. (see Liamshev, L.M.) - 530.
Rusinov, L.I. (see Kel'man, V.M.) - 189.
Rytov, S.M. Thermal Agitation in Distributed Systems - 555.
Saakian, G.S. (see Kocharian, N.M.) - 209.
Savintsev, P.A. Relation of the Physical Properties of Crystals to Molecular Concentration - 591.
Selidov, Iu. M. (see Vonsovskii, S.V.) - 149.
Semenov, B.Z. (see Kats, M.L.) - 44.
Semiletov, S.A. (see Kurov, G.A.) - 604.
Sevchenko, N.A. and V.A. Florinskaia. Reflection and Transmission of 7-24μ Waves by Silica Modifications - 508.

Shafer, Iu. G. (see Kuz'min, A.I.) - 263.
Shafronova, M.G. (see Dulkova, L.S.) - 154, 739.
Shakhparonov, M.N. Theory of Dielectric Polarization - 728.
Shal'nikov, A.I. (see Feigin, L.A.) - 377.
Shalyt, S.S. Magnetoresistance and Hole Conduction in Tellurium - 488.
Shamovskii, L.M., A.A. Dunina and M.I. Gosteva. Hole Conductivity in Silver Bromide - 124.
— Dunina, A.A. and M.I. Gosteva. Ionic Conductivy of KI(Tl) Phosphors - 725.
Shapiro, L.S. Expansion of a Wave Function in Irreducible Representations of the Lorentz Group - 91.
Shchaenko, V.V. (see Trapeznikova, Z.A.) - 28.
Shcherbakov, Iu. (see Kozodaev, M.) - 171.
Shifrin, F. Sh. Electron Energy Levels and Interatomic Distances in Molecules - 32.
— Method of Investigating the Electronic States of Diatomic Molecules. The Electronic States and Bond Distances of Alkali Metals and Their Hydrides - 576.
Shiklosh, T. (see Kondorskii, E.I.) - 501.
Shirkov, D.V. (see Blank, V.Z.) - 752.
Shirokov, Iu. M. Relativistic Invariance in Quantum Theory - 777.
Shishlovskii, A.A. (see Gorban', I.S.) - 249, 276.
Shklovskaia-Kordi, V.V. (see Zarembo, L.K.) - 434, 470.
Shmushkevich, I. (see Dushin, N.) - 94.
Sholokhovich, M.L. (see Khodakov, A.L.) - 379.
Shostakovich, N.V. (see Potapov, L.I.) - 85.
Shpol'skii, E.V. and L.A. Klimova. Emission Spectrum of Coronene in Solutions at Low Temperatures - 782.
Shulvalov, Iu. N. Redistribution of Electron Density and Change of Electrical Conductivity in Cadmium Sulfide Crystals - 490.
Shvartsman, B.F. (see Dorman, L.I.) - 364.
Sitenko, A.G. Gamma Radiation from the Collisions of Fast Charged Pions with Nuclei - 512.
— (see Akhiezer, A.I.) - 180.
Siui-iun, Siui. Relative Capture and Recombination Cross Sections of Optical Electrons in Zns — Cu, Co Phosphors - 111.
Skorniakov, G.V. and K.A. Ter-Martirosian. Solution of the Problem of the Motion of Three Nucleons in the Limiting Case of Shortrange Forces - 53.
Skrypin, G.V. (see Kuz'min, A.I.) - 263.
Smolenskii, G.A., V.A. Isupov and A.I. Agranovskaia. High Dielectric Constants of Niobates and Tantalates of Divalent Metals - 300.
Smolkin, G.E. and E.K. Zavoiskii. Intermolecular Transfer of Excitation Energy in Crystals - 652.
— (see Zavoiskii, E.K.) - 652, 743.
Sobolev, V.D. (see Nozdrev, V.F.) - 722.
Sobolev, V.V. Transmission of Radiation Through an Inhomogeneous Medium - 747.
Sokolik, G.A. Classification of Nonlinear Equations and of Relativistically Invariant Interactions According to Representations of the Lorentz Group and the Theory of Fusion - 57.
Sokolov, A. A. and B.K. Kerimov. Damped Scattering of Spinless Particles - 345.
— D. D. Ivanenko, and L.M. Ternov. Excitation of Macroscopic Oscillations by Quantum Fluctuations - 658.
Sokolov, Iu. L., M.M. Sulkovskaia, E.A. Al'bitskaia, and E.I. Karpushkina. Nuclear Levels of Li^6 - 773.
Sokolova, I.B. (see Dulkova, L.S.) - 154, 739.
Solov'ev, L.D. Infrared Asymptotic Form of the Green's Function for Electrons to Order e^4 - 536.
Solov'ev, L.S. and E.L. Burshtein. Theory of Alternating-Gradient Focusing - 459.
Solov'ev, V.G. New Model in Field Theory - 392.
— Nucleon Propagation Function in the Quadratic Approximation - 693.
Sorokin, P.V. and A. Ia. Taranov. Polarization of Protons Scattered Elastically by C^{12} - 637.
Spivak, G.V. and T.N. Dombrovskaia. Electron Optical Method of Studying the Dynamics of Thermal Processes in Opaque Media - 9.
Stabnikov, M.V. (see Komar, A.P.) - 260.
Stekhanov, A.I. Intensity Distribution in the OH-Band of the Spectrum of Combination Scattering By a Crystal of Gypsum - 61.
Stepanov, B.M. Nonrelativistic Regularization of the S-Matrix - 396.
— (see Logunov, A.A.) - 552.
Stepanov, I.V. and P.P. Feofilov. Two Types of Rare-Earth Luminescence Spectra in Synthetic Fluorite Crystals - 350.
Stil'bans, L. S. (see Ioffe, A.F.) - 132.
Soianova, I. G. Electron Microscopic Study of Thin Films of Antimony by the Dark Field Method - 65.
Strashkevich, A.M. New Engineering Physics Methods for Designing Models and Calculating Trajectories of Relativistic Charged Particles in Electrostatic Fields - 330.
Stratonovich, R.L. Gauge-Invariant Analogue of the Wigner Distribution - 414.
Strelkov, P. G. (see Itskevich, E.S.) - 98.
Sudakov, V.V. Meson-Meson Scattering in Meson Field Theory - 662.
Sukhanovskii, V.V. Theory of Multilayer Two-Component Dielectric Coatings - 24.
Sukhov, L.V. (see Dulkova, L.S.) - 154.

Suliaev, R. (see Kozodaev, M.) - 171.
Sulkovskaia, M.M. (see Sokolov, Iu. L.) - 773.
Surkova, L.V. (see Alpers, V.V.) - 310.
Svenshnikov, B. Ia., L.A. Kuznetsova, and V. A. Molchanov. Possibility of a Transition Between Two Types of Concentration Quenching of Fluorescence - 484.
— Theory of Concentration Quenching of Fluorescent Solutions - 633.
Takibaev, Zh. S., P.A. Usik, and M. G. Antonova. Pion Production by High-Energy Cosmic Rays - 666.
Taranov, A. Ia. (see Sorokin, P.V.) - 637.
Tarumov, E. Z. (see Gol'danskii, V.L) - 16.
Tel'kovskii, V.G. Secondary Electron Emission from Metals Induced by Ions and Neutral Particles - 334.
Terletskii, Ia. P. Salam-Polkinghorne Classification and the Neutron Charge Hypothesis - 303.
Ter-Martirosian, K.A. (see Skorniakov, G.V.) - 53.
Ternov, I.M. (see Sokolov, A.A.) - 658.
Tiablikov, S.V. and A. Ts. Amatuni. Ground State of an Antiferromagnet by the Method of Elementary Excitations - 266.
Tianutova, G.V. (see Kuz'min, A.I.) - 263.
Tolpygo, K.V. (see Mashkevich, V.S.) - 690.
Tolstoi, N.A. Luminescence Flashes in Zinc Sulfide Crystals and the Two-Stage Excitation Mechanism - 698.
Tolstov, K.D. (see Pulkova, L.S.) - 154.
Trapeznikova, Z.A. and V.V. Shchaenko. Some Optical Properties of New Rare Earth-Activated Zinc Sulfide Phosphors - 28.
Tsvertkov, V.N. (see Frisman, E.V.) - 12.
Tsvertkov, V.P. (see Glauberman, A.E.) - 68.
Usik, P.A. (see Takibaev, Zh. S.) - 666.
Vainshtein, E.E. and B.I. Kotliar. X-Ray Emission Spectra of Mn and Cu in a Heusler Alloy at Temperatures Around the Curie Point - 527.
Val'ter, A.K. (see Kliucharev, A.P.) - 475.
Varfolomeev, A.A., R.I. Gerasimova and L. A. Karpova. K-Meson Decay of a Slow Secondary Particle - 594.
— R. I. Gerasimova and L. A. Karpova. Possible Example of Anomalous Decay of a Hyperfragment - 579.
Vartanian, A.T. and I.A. Karpovich. Electrical Conductivity and Photoconductivity of Phthalocyanines - 675.
Vavilov, Iu. N. (see Nikol'skii, S.N.) - 625.
Velichkina, T.S. (see Iakovlev, I.A.) - 215.
Vember, T.M. (see Cherkasov, A.S.) - 427.
Vereschagin, L.F. and L.V. Brandt. X-Ray Studies of Matter at Pressures to 30,000 Atmospheres - 312.
Vintaikin, E.Z. (see Kornev, Iu. V.) - 203.
Voldaikina, K. G. (see Cherkasov, A.S.) - 427.
Vonsovskii, S.V. and Iu. M. Selidov. Indirect Exchange Interaction - 149.
Vorob'ev, A.A. Optical Absorption in Compounds of Metals of the First and Second Groups of the Periodic Table and the Energy of the Crystalline Lattice - 242.
Vuks, M.F. and A.K. Atakhodzhaev. Determination of the Orientation Relaxation Time of Some Liquids by the Widths of Scattered Lines - 496.
Vul'fson, K. S. New Method of Measuring the Velocity of Light - 499.
Zakharchenia, B.P. (see Gross, E.F.) - 678.
Zarembo, L.K., V.A. Krasil'nikov and V.V. Shklovskaia - Kordi. Absorption of Ultrasonic Waves of Finite Amplitude in Liquids - 470.
— V. A. Krasil'nikov and V.V. Shklovskaia-Kordi. Distortion of Ultrasonic Waves of Finite Amplitude in Liquids - 434.
Zavoiskii, E.K., M.M. Butslov, and G.E. Smolkin. Maximum Amplification Factor and Noise of Photomultipliers - 743.
— and S.D. Fanchenko. Physical Fundamentals of Electron-optical Chronography - 285.
Zel'manov, A.L. Chronometric Invariants and Frames of Reference in the General Theory of Relativity - 227.
Zhuravlev, V.A. (see Andrievskii, A.I.) - 239.
Zimin, A.G. and N.M. Iashin. Nuclear Quadrople Moment of U^{233} - 419.
Zubarev, D.N. Generalization of the Method of Supplementary Variables - 437.
Zubov, V.G. Temperature Dependence of the Elastic Constants of Quartz - 187.
— and M.M. Firsova. Elastic Properties of β -Quartz at High Temperatures - 441.

Soviet Physics – Doklady: Analytic Subject Index for Vol. 1, 1956

(Russian Original Vol. 1, 1956, Physics Section, Proceedings of the Academy of Sciences of the USSR)

Acoustics
Astrophysics
Atomic and Molecular Beams
Atomic Mass and Abundance
Atomic Structure and Spectra
Biographical Material
Biophysics
Chemical Effects and Properties
Constants, Standards and Units
Cosmic Radiation
Crystalline State
Dielectrics and Dielectric Properties
Diffraction
Diffusion
Elasticity and Plasticity
Electrical Conductivity and Resistance
Electrical Discharges
Electrical Properties
Electromagnetic Theory and Electrodynamics
Electrons and Positrons
Elementary Particle Interactions
Errata
Field Theory
Films, Properties
Fluid Dynamics
Gamma Rays
Gases
Geophysics
Helium, Liquid
Imperfections in Solids
Ionization
Ions
Ions and Electrons, Mobility
Liquids
Luminescence
Magnetic Properties
Magnetic Resonance
Mathematical Methods
Mechanics
Mesons and Hyperons
Methods and Instruments
Microwaves
Miscellaneous
Molecular Aggregates
Molecular Structure and Spectra
Neutrino
Noise
Nuclear Fission
Nuclear Moments and Spin
Nuclear Photoeffects
Nuclear Reactions, General
Nuclear Reactions Induced by Particles and He^3
Nuclear Reactions Induced by Deuterons and Tritons
Nuclear Reactions Induced by Mesons
Nuclear Reactions Induced by Neutrons
Nuclear Reactions Induced by Protons
Nuclear Spectra
Nuclear Structure Theory
Optical Properties
Quantum Electrodynamics
Quantum Mechanics
Radiation
Radioactivity
Range and Energy Loss of Particles
Relativity and Gravitation
Scattering, General
Scattering of α Particles
Scattering of Deuterons
Scattering of Electrons and Positrons
Scattering of Mesons
Scattering of Neutrons
Scattering of Protons
Semiconductors
Spectra, General
Statistical Mechanics and Thermodynamics
Superconductivity
Thermal Properties
X-Rays

Absorption of Radiation (see Radiation)

Acoustics

Absorption of Ultrasonic Waves of Finite Amplitude in Liquids, L. K. Zarembo, V. A. Krasil'nikov and V. V. Shklovskaia-Kordi - 470.

Density Dependence of the Index of Refraction at Low Frequencies of Sound, G. P. Motulevich and I. L. Fabelinskii - 81.

Distortion and Interaction of Acoustic Waves of Finite Amplitude in a Viscous Medium, G. D. Mikhailov - 409.

Distortion of Ultrasonic Waves of Finite Amplitude in Liquids, L. K. Zarembo, V. A. Krasil'nikov and V. V. Shklovskaia-Kordi - 434.

Saturation Measurements of Ultrasonic Absorption in Ethyl Acetate Using an Impulse Method with Two Fixed Distances, V. F. Nozdrev and V. D. Sobolev.

Sound Reflection by a Thin Rod in Water, L. M. Liamshev and S. N. Rudakov - 530.

Afterglow (see Electrical Discharges)

Alloys (see Crystalline State)

Annihilation (see Electrons and Positrons)

Antiferroelectric Phenomena (see Dielectrics and Dielectric Properties)
Antiferromagnetism (see Magnetic Properties)
Arcs (see Electrical Discharges)
Astrophysics
Nonionospheric Fluctuations of the Intensity of Radio Waves from Nebulae, V. L. Ginzburg - 403.
Shock Wave Emergence at a Stellar Surface, G. M. Gandel'man and D. A. Frank-Kamenetskii - 223.
Atomic Structure and Spectra
Fine Structure of HE^{3} II λ 4687 A Allowing for the Lamb Shift of the $nS_{1/2}$ Levels, P. S. Kireev - 294.
Isotope Shift in the Spectrum of Neodymium, F. A. Korolev and Iu. L. Osipov - 549.
Isotopic Shift in the Spectrum of HeII., P. S. Kireev - 316.
Nuclear Quadrupole Moment of U^{233}, A. G. Zimin and N. M. Iasin - 419.
Triplet-Quintet Transitions in the Atomic Spectrum of Silicon, N. A. El'iashevich and O. N. Nikitina - 649.
Auger Effect (see Atomic Structure and Spectra)
Barkhausen Effect (see Magnetic Properties)
Boson Theory (see Field Theory)
Bremsstrahlung (see Radiation)
Broadening of Spectral Lines (see Atomic Structure and Spectra; Spectra, General)
Capture Cross Sections (see Electrons and Positrons; Nuclear Reactions, General; Radiation)
Cerenkov Effect (see Radiation)
Chemical Effects and Properties
Bismuth-Lead Alloy Bolometer, M. N. Markov - 317.
Flow Deformation of Macromolecules and its Effect on the Sign of the Dynamic Birefrigence of a Polymer in Solution, E. V. Frisman and V. N. Tsvetkov - 12.
Nature of Concentration Effects in Solutions of Acridinic Compounds, L. V. Levshin - 296.
Chemiluminescence (see Luminescence)
Cold Emission (see Electrical Properties)
Compton Effect (see Radiation)
Conductivity, Electrical (see Electrical Conductivity and Resistance
Cosmic Radiation
Cascade Curves from Electrons and Photons in Lead, I. P. Ivanenko - 231.
Investigation of the N Component of Extensive Air Showers, S. N. Nikol'skii, Iu. N. Vavilov and V. V. Batov - 625.
Large Cosmic Ray Burst of February 23, 1956 as Observed at Moscow, Sverdlovsk, Tbilisi and Cape Schmidt, L. I. Dorman, N. S. Kaminer, V. K. Koiava and B. F. Shvartsman - 364.
Pi on Production by High-Energy Cosmic Rays, Zh. S. Takibaev, P. A. Usik, and M. G. Antonova - 666.
Sea Level Spectra of Protons and π^- - Mesons, L. I. Potapov and N. V. Shostakovich - 85.
Statistical Estimate of the Energy of Particles Which Generate Mixed Showers, E. M. Fridlender - 119.
Unusual Cosmic Ray Burst, A. I. Kuz'min, G. V. Skrypin, G. V. Tianutova and Iu. G. Shafer - 263.
Cosmology (see Relativity and Gravitation)
Critical Potentials (see Atomic Structure and Spectra)
Cross Section (see Electrons and Positrons; Nuclear Reactions; Radiation; Scattering, General)
Crystal Counters (see Methods and Instruments)
Crystalline State (see also Electrical Properties; Magnetic Properties, Semiconductors, etc.)
Characteristic Times of Electronic Processes in Semiconductors, I. I. Adirovich and G. M. Guro - 306.
Elastic Properties of β-Quartz at High Temperatures, V. G. Zubov and M. M. Firsova - 441.
Electrical Phenomena in the Disruption Mechanism of Some Solids, B. V. Deriagin, N. A. Krotova and V. V. Karasev - 466.
Exciton Structure of the Spectral Curves of the Photoconductive Effect in Crystals, E. F. Gross, A. A. Kaplianskii, and B. V. Novikov - 582.
Formation of Ultramicroscopic Inhomogeneities in the Plastic Deformation of Sodium Chloride, R. I. Garber, I. V. Obreimov and L. M. Poliakov - 314.
Heat Capacity of Layer Lattices at Low Temperatures, E. S. Itskevich and P. G. Strelkov - 98.
Hole Conductivity in Silver Bromide, L. M. Shamovskii, A. A. Dunina and M. I. Gosteva - 124.
Interaction of Vibrations of Nonpolar Crystals with Electric Fields, V. S. Mashkevich and K. B. Tolpygo - 690.
Intermolecular Transfer of Excitation Energy in Crystals, E. K. Zavoiskii and G. E. Smolkin - 652.
Ionic Conductivity of KI(T1) Phosphors, L. M. Shamovskii, A. A. Dunina, and M. I. Gosteva - 725.
Linear and Quadratic Zeeman Effects and Exciton Diamagnetism of Copper Oxide Crystals, E. F. Gross and B. P. Zakharchenia - 678.
Luminescence Flashes in Zinc Sulfide Crystals and the Two-Stage Excitation Mechanism, N. A. Tolstoi - 698.
Maximum Amplification Factor and Noise of Photomultipliers, E. K. Zavoiskii, M. M. Butslov, and G. E. Smolkin - 743.

Opalescence in the Phase Transition of Quartz, I. A. Iakovlev, T. S. Velichkina and L. F. Mikheeva - 215.
Preparation and Dielectric and Optical Properties of Single Crystals of Solid Solutions of Barium and Strontium Titanates, A. K. Khodakov, M. L. Sholokhovich, E. G. Fesenko and O. P. Kramarov - 379.
Redistribution of Electron Density and Change of Electrical Conductivity in Cadmium Sulfide Crystals, Iu. N. Shuvalov - 490.
Reflection and Transmission of 7-24μ Waves by Silica Modifications, N. A. Sevchenko and V. A. Florinskaia - 508.
Relation of the Physical Properties of Crystals to Molecular Concentration, P. A. Savintsev - 591.
Relative Capture and Recombination Cross Sections of Optical Electrons in ZnS — Cu, Co Phosphors, Siui Siui-iun - 111.
Spontaneous Lattice Deformations in Ferromagnetic Transitions, K. P. Belov and N. K. Panina - 732.
Static Distortions of Crystals Determined by Different X-Ray Wave Lengths, V. A. Il'ina and V. K. Kritskaia - 587.
Sublimation of a Crystal Lattice by a Strong Shock Wave, Iu. N. Riabinin - 424.
Temperature Dependence of the Elastic Constants of Quartz, V. G. Zubov - 187.
Theory of Dipolar Crystals in an External Electric Field, A. E. Glauberman - 244.
Theory of Magnetostriction of Nickel Single Crystals, N. S. Akulov - 1.
X-Ray Studies of Matter at Pressures to 30,000 Atmospheres, L. F. Vereshchagin and I. V. Brandt - 312.

Diamagnetism (see Magnetic Properties)

Dielectrics and Dielectric Properties
High Dielectric Constants of Niobates and Tantalates of Divalent Metals, G. A. Smolenskii, V. A. Isupov and A. I. Agranovskaia - 300.
Preparation and Dielectric and Optical Properties of Single Crystals of Solid Solutions of Barium and Strontium Titanates, A. L. Khodakov, M. L. Sholokhovich, E. G. Fesenko and O. P. Kramarov - 379.
Theory of Dielectric Polarization, M. N. Shakhparonov, - 728.
Theory of Multilayer Two-Component Dielectric Coatings, V. V. Sukhanovskii - 24.

Discharge of Electricity in Gases (see Electrical Discharges)

Disintegration and Excitation of Nucleus (see Nuclear Reactions, General)

Elasticity and Plasticity
Elastic Properties of β-Quartz at High Temperatures, V. G. Zubov and M. M. Firsova - 441.
Measurement of the Dynamical Modulus of Elasticity of Rubber for Very Small Deformations by an Optical Modulation-Interference Method, N. M. Borovitskaia - 493.
Temperature Dependence of the Elastic Constants of Quartz, V. G. Zubov - 187.

Electrical Breakdown (see Dielectrics and Dielectric Properties; Electrical Discharges)

Electrical Conductivity and Resistance (see also Electrical Properties; Semiconductors; Superconductivity)
Relaxation of Photoconductivity in Stannic Oxide, A. I. Andrievskii and V. A. Zhuravlev - 239.

Electrical Discharges
Effect of a Longitudinal Magnetic Field on Impulsive Gas Discharges with Large Currents, A. L. Bezbatchenko, I. N. Golovin, D. P. Ivanov, V. D. Kirillov, and N. A. Iavlinskii - 640.
Ion Mobility and Space Charge in an Inhomogeneous Field, Iu. M. Kagan and V. I. Perel' - 289.
Secondary Electron Emission from Metals Induced by Ions and Neutral Particles, V. G. Tel'kovskii - 334.
Spark Channel Broadening in Air at About 2×10^6 Amperes, V. S. Komel'kov and D. S. Parfenov - 769.
Theory of the Striated Positive Column, I. M. Chapnik - 199.

Electrical Properties (see also Dielectrics and Dielectric Properties; Electrical Conductivity and Resistance; Semiconductors; Superconductivity)
Calculation of π-Electronic Polarizability of Polyenes and Benzene by the "Metallic"-Molecular Model, M. N. Adamov and I. S. Milevskaia - 399.
Electrical Conductivity and Photoconductivity of Phthalocyanines, A. T. Vartanian, and I. A. Karpovich - 675.
Excitation Structure of the Spectral Curves of the Photoconductive Effect in Crystals, E. F. Gross, A. A. Kaplianskii and B. V. Novikov - 582.
Hole Conductivity in Silver Bromide, L. M. Shamovskii, A. A. Dunina and M. I. Gosteva - 124.
Increasing the Efficiency of Semiconductor Thermocouples, A. F. Ioffe, S. V. Airapetiants, A. V. Ioffe, N. V. Kolomoets and L. S. Stil'bans - 132.
Investigation of Vacuum-Evaporated Single-Crystal Germanium Films, G. A. Kurov, S. A. Semiletov and Z. G. Pinsker - 604.

Ionic Conductivity of KI(Tl) Phosphors, L. M. Shamovskii, A. A. Dunina, and M. I. Gosteva - 725.
Magnetoresistance and Hole Conduction in Tellurium, S. S. Shalyt - 488.
Maximum Amplification Factor and Noise of Photomultipliers, E. K. Zavoiskii, M. M. Butslov, and G. E. Smolkin - 743.
Redistribution of Electron Density and Change of Electrical Conductivity in Cadmium Sulfide Crystals, Iu. N. Shuvalov - 490.
Relation of the Physical Properties of Crystals to Molecular Concentration, P. A. Savintsev - 591.
Theory of Dipolar Crystals in an External Electric Field, A. E. Glauberman - 244.
Transverse Photomagnetic Effect in n- and p-type Germanium, I. K. Kikoin and Iu. A. Bykovskii - 473.
Electrodynamics (see Electromagnetic Theory and Electrodynamics)
Axially Symmetric Electrons Beams of a Given Shape, V. T. Ovcharov - 158.
Effect of Radiation on Betatron Oscillations in Strong-Focusing Synchrotons, A. N. Matveev - 211.
Some Problems of the Theory of Electron Beam Focusing, P. P. Kas'ianov - 367.
Electron Diffraction (see Scattering of Electrons and Positrons
Electron Optics (see Electromagnetic Theory and Electrodynamics)
Electronic Tubes (see Methods and Instruments)
Electrons, Scattering of (see Scattering of Electrons and Positrons)
Electrons, Secondary (see Electrical Properties)
Electro-Optical Effects (see Optical Properties)
Electrostriction (see Dielectrics and Dielectric Properties)
Elementary Particle Interactions
Note on the Systematization of Hyperons and Heavy Mesons, M. Markov - 107.
Solution of the Problem of the Motion of Three Nucleons in the Limiting Case of Shortrange Forces, G. V. Skorniakov and K. A. Ter-Martirosian - 53.
Elements (see Atomic Mass and Abundance)
Energy Loss of Particles (see Range and Energy Loss)
Energy States of Atoms (see Atomic Structure and Spectra)
Energy States of Nucleus (see Nuclear Reactions; Nuclear Spectra; Nuclear Structure Theory)
Evaporation (see Liquids)
Excitation of Atoms (see Atomic Structure and Spectra)
Excitation of Nucleus (see Nuclear Reactions; Nuclear Spectra; Nuclear Structure)
Faraday Effect (see Optical Properties)
Ferroelectric Phenomena (see Dielectrics and Dielectric Properties)
Field Emission (see Electrical Properties)
Field Theory (see also Quantum Electrodynamics)
Asymptotic Investigation of the Vertex Part in Quantum Electrodynamics, V. Z. Blank and D. V. Shirkov - 752.
Causality and the Criterion of Physical Realizability in Quantum Field Theory, L. A. Khalfin - 671.
Departure from Weak Coupling in the Doubly-Charged Meson Field Theory, I. F. Ginzburg - 560.
Dispersion Relation for Fermions, V. Fainberg and E. Fradkin - 455.
Dispersion Relation for Nucleon Scattering, F. M. Kuni - 686.
Higher Approximations in the Self-Consistent Field Method of Meson Theory, E. L. Feinberg and D. S. Chernavskii - 354.
Infrared Asymptotic Form of the Green's Function for Electrons to Order e^4, L. D. Solov'ev - 536.
Meson-Meson Scattering in Meson Field Theory, V. V. Sudakov - 662.
New Model in Field Theory, V. G. Solov'ev - 392
New Type of Relativistically Invariant Linear Equation of a Localizable Field, R. S. Ingarden - 252.
Nonlinearity and Conformal Reciprocity, Andrei Popovich - 628.
Nonrelativistic Regularization of the S-Matrix, B. M. Stepanov - 396.
Nucleon Propagation Function in the Quadratic Approximation, V. G. Solov'ev - 693.
Potential in Pair Theories of Nuclear Forces, Iu. M. Lomsadze - 571.
Pseudoscaler Interaction in Nonlinear Meson Theory, A. Borgardt - 524.
Relations Between Cross Sections Which Result from the Hypothesis of Isotopic Invariance, N. Dushin and I. Shmushkevich - 94.
Relativistic Invariance in Quantum Theory, Iu. M. Shirokov - 777.
Spectral Representation and the Renormalization Group, A. A. Logunov - 478.
Towards a General Theory of Meson Scattering, A. Brodskii - 701.
Vertex Part at High Energies, V. Z. Blank - 184.
Vertex Part in Scalar Electrodynamics in the Large Momentum Region, A. A. Logunov - 20.
Films, Properties

Electron Microscopic Study of Thin Films of Antimony by the Dark Field Method, I. G. Stoianova - 65.
Graphical Method of Calculation for Multilayer Films, P. G. Kard - 256.
Investigation of Vacuum-Evaporated Single-Crystal Germanium Films, G. A. Kurov, S. A. Semiletov and Z. G. Pinsker - 604.
Regrouping of the Latent Image in the Photographic Action of Ionizing Particles, A. L. Kartuzhanskii - 421.
Fine Structure (see Atomic Structure and Spectra)
Fission of Nucleus (see Nuclear Fission)
Fluctuation Phenomena (see Noise)
Fluid Dynamics
Shock Wave Emergence at a Stellar Surface, G. M. Gandel'man and D. A. Frank-Kamenetskii - 223.
Visualization of Aerodynamic Streamline Flow Around Axially Symetrical Bodies Through the Use of a Flat Layer of Colored Gas, A. A. Iuzefovich, D. N. Mirshanov and Iu. A. Dunaev - 270.
Fluorescence (see Luminescence)
Galvanomagnetic Effect (see Magnetic Properties)
Gases
Relativistic Kinetic Equation, S. T. Beliaev and G. I. Budker - 218.
Sublimation of Silver Studied with Radioactive Tracers and a Mass Spectrometer, Iu. V. Kornev and E. Z. Vintaikin - 203.
X-Ray Emission at the Start of a Gas Discharge, I. M. Podgornyi - 375.
Gravitation (see Relativity and Gravitation)
Gyromagnetization (see Magnetic Properties)
Hall Effect (see Electrical Conductivity and Resistance; Semiconductors)
Helium, Liquid
Relative Intensity of the Fine Structure Components of He II λ 4686 A., P. S. Kireev - 74.
High-Voltage Tubes and Machines (see Methods and Instruments)
Hyperfine Structure (see Atomic Structure and Spectra; Nuclear Moments and Spin)
Hyperon (see Mesons and Hyperons)
Imperfections in Solids
Formation of Ultrasonic Inhomogeneities in the Plastic Deformation of Sodium Chloride, R. I. Garber, I. V. Obreimov and L. M. Poliakov - 314.
Inelastic Scattering (see Nuclear Reactions; Scattering)
Instruments (see Methods and Instruments)
Internal Conversion (see Nuclear Spectra)
Ionization (see also Electrical Discharges; Range and Energy Loss of Particles)
Primary Ionization by Fast Muons, G. P. Eliseev, V. A. Liubimov and A. M. Frolov - 169.
Ionization Potentials of Atoms (see Atomic Structure and Spectra
Ions (see also Electrical Discharges)
Measurement of Ion Masses by the Use of Electric Fields, V. B. Fiks - 89.
Theory of the Striated Positive Column, I. M. Chapnik - 199.
Isobars (see Atomic Mass and Abundance)
Isomers, Nuclear (see Nuclear Spectra)
Isotopes (see Atomic Mass and Abundance; Radioactivity)
Kerr Effect (see Optical Properties)
Liquid Helium (see Helium, Liquid)
Liquids
Absorption of Ultrasonic Waves of Finite Amplitude in Liquids, L. K. Zarembo, V. A. Krasil'nikov and V. V. Shklovskaia-Kordi - 470.
Density Dependence of the Index of Refraction at Low Frequencies of Sound, G. P. Motulevich and I. L. Fabelinskii - 81.
Determination of the Orientation Relaxation Time of Some Liquids by the Widths of Scattered Lines, M. F. Vuks and A. K. Atakhodzhaev - 496.
Energy Spectrum of He^3 Dissolved in He II, N. G. Berezniak and B. N. Esel'son - 645.
Structure of Simple Liquids, A. E. Glauberman and V. P. Tsvetkov - 68.
Luminescence
Atomic Nickel Centers in NaCl-Ni Phosphors, M. L. Kats and B. Z. Semenov - 44.
Duration of Fluorescence in Mesoderivatives of Anthracene, A. S. Cherkasov, V. A. Molchanov, T. M. Vember and K. G. Voldaikina - 427.
Luminescence Flashes in Zinc Sulfide Crystals and the Two-Stage Excitation Mechanism, N. A. Tolstoi - 698.
Luminescence Spectra of Some Iodides, V. A. Arkhangel'skaia and P. P. Feofilov - 358.
Nature of Concentration Effects in Solutions of Acridinic Compounds, L. V. Levshin - 296.
Phosphorescence Spectra of Some Aromatic Acids at the Temperature of Liquid Air, B. A. Piatnitskii - 451.
Possibility of a Transition Between Two Types of Concentration Quenching of Fluorescence, B. Ia. Sveshnikov, L. A. Kuznetsova and V. A. Molchanov - 484.
Relative Capture and Recombination Cross Sections of Optical Electrons in ZnS-Cu, Co Phosphors, Siui Siui-iun - 111.

Some Optical Properties of New Rare Earth-Activated Zinc Sulfide Phosphors, Z. A. Trapeznikova and V. V. Shchaenko - 28.
Theory of Concentration Quenching of Fluorescent Solutions, B. Ia. Sveshnikov - 633.
Two Types of Rare-Earth Luminescence Spectra in Synthetic Fluorite Crystals, I. V. Stepanov and P. P. Feofilov - 350.
Magnetic Fields (see Electromagnetic Theory and Electrodynamics)
Magnetic Properties
Diamagnetic Resonance in Strongly Magnetic Bodies, Ia. G. Dorfman - 534.
Exchange Interaction in Some Paramagnetics, S. -Kh. G. Kashaev - 546.
Fine and Hyperfine Structure of Paramagnetic Resonance in Bivalent Europium, A. A. Manenkov and A. M. Prokhorov - 196.
Ground State of an Antiferromagnet by the Method of Elementary Excitations, S. V. Tiablikov and A. Ts. Amatuni - 266.
Hyperfine Structure of Paramagnetic Resonant Lines in Supercooled Solutions of $^{51}V^{++}$, $^{53}Cr^{+++}$ and $^{55}Mn^{++}$, N. S. Garif'ianov - 463.
Linear and Quadratic Zeeman Effects and Exciton Diamagnetism of Copper Oxide Crystals, E. F. Gross and B. P. Zakharchenia - 678.
Spontaneous Lattice Deformations in Ferromagnetic Transitions, K. P. Belov and N. K. Panina - 732.
Temperature Hysteresis of the Galvanomagnetic Effect, L. V. Kirensky and V. F. Ivlev - 48.
Theory of Ferro-, Para- and Ferrimagnetism, N. S. Akulov - 337.
Theory of Magnetostriction of Nickel Single Crystals, N. S. Akulov - 1.
Theory of the Spontaneous Magnetization of Ferromagnetic Semiconductors at Low Temperatures, E. I. Kondorskii, A. S. Pakhomov and T. Shiklosh - 501.
X-Ray Emission Spectra of Mn and Cu in a Heusler Alloy at Temperatures Around the Curie Point, E. E. Vainshtein and B. I. Kotlia - 527.
Magnetic Resonance
Diamagnetic Resonance in Strongly Magnetic Bodies, Ia. G. Dorfman - 534.
Indirect Exchange Interaction, S. V. Vonsovskii and Iu. M. Selidov - 149.
Magneto-Optical Effects (see Optical Properties)
Magnetoresistance (see Electrical Conductivity and Resistance; Semiconductors)
Magnetostriction (see Magnetic Properties)
Mass Spectroscopy (see Methods and Instruments)
Mathematical Methods
Cyclotron with Sectional Magnet, E. M. Moroz - 326.
Effect of Radiation on Synchrotron Oscillations under Strong Focusing, A. N. Matveev - 321.
Electron Motion in Cyclical Accelerators as a Stochastic Process, A. N. Matveev - 443.
Equations with Variational Derivatives and Distribution Functions for Systems with Complex Interaction, I. P. Bazarov - 520.
Expansion of a Wave Function in Irreducible Representations of the Lorentz Group, I. S. Shapiro - 91.
Gauge-Invariant Analogue of the Wigner Distribution, R. L. Stratonovich - 414.
Generalization of the Method of Supplementary Variables, D. N. Zubarev - 437.
Ground State of an Antiferromagnet by the Method of Elementary Excitations, S. V. Tiablikov and A. Ts. Amatuni - 266.
New Engineering Physics Methods for Designing Models and Calculating Trajectories of Relativistic Charged Particles in Electrostatic Fields, A. M. Strashkevich - 330.
Relativistic Kinetic Equation, S. T. Beliaev and G. I. Budker - 218.
Some Problems of the Theory of Electron Beam Focusing, P. P. Kas'iankov - 367.
Theory of Alternating-Gradient Focusing, E. L. Burshtein and L. S. Solov'ev - 459.
Theory of a Real Gas with Noncentral Particle Interaction, A. E. Glauberman - 615.
Thermal Agitation in Distributed Systems, S. M. Rytov - 555.
Measurements (see Methods and Instruments)
Mechanics
Direct Measurements of Molecular Attraction Between Solids in a Vacuum, B. V. Deriagin and I. I. Abrikosova - 280.
Mechanics, Quantum (see Quantum Mechanics)
Mechanics, Quantum - Atomic Structure and Spectra (see Atomic Structure and Spectra)
Mechanics, Quantum - Nuclear (see Nuclear Structure Theory)
Mechanics, Quantum - of Solid Bodies (see Crystalline State)
Mechanics, Statistical (see Statistical Mechanics and Thermodynamics)
Meson Field Theory (see Field Theory)
Mesons and Hyperons (see also Cosmic Radiation; Elementary Particles Interaction; Nuclear Reactions Induced by Mesons; Scattering of Mesons)

Analysis of Some Anomalous θ^0-Decays, E. M. Fridlender - 140.
Diffusion Chamber Study of Negative Pion Scattering in Hydrogen, M. Kozodaev, R. Suliaev, A. Filippov and Iu. Shcherbakov - 171.
Dispersion Relations for the Photoproduction of Pions, A. A. Logunov and B. M. Stepanov - 552.
Higher Approximations in the Self-Consistent Field Method of Meson Theory, E. L. Feinberg and D. S. Chernavskii - 354.
Impossibility of Explaining the Stability of Hyperons by their Large Spins, I. I. Gurevich - 152.
K-Meson Decay of a Slow Secondary Particle, A. A. Varfolomeev, R. I. Gerasimova and L. A. Karpova - 594.
Note on the Systematization of Hyperons and Heavy Mesons, M. Markov - 107.
Observation of the Production and Decay of Unstable Particles in an Emulsion Chamber, V. V. Alpers, I. I. Gurevich and L. V. Surkova - 310.
Photoproduction of Slow π^--Mesons in Complex Nuclei, E. G. Gorzhevskaia and N. M. Panova - 757.
Pion Production by High-Energy Cosmic Rays, Zh. S. Takibaev, P. A. Usik, and M. G. Antonova - 666.
Positive Hyperon and Singly Charged Hyperfragment Decays, V. V. Alpers, I. I. Gurevich and A. P. Michakova - 272.
Primary Ionization by Fast Muons, G. P. Eliseev, V. A. Liubimov and A. M. Frolov - 169.
Pseudoscalar Interaction in Nonlinear Meson Theory, A. Borgardt - 524.
Relations Between Cross Sections for Multiple Pion Production, N. V. Dushin - 128.
Relations Between Cross Sections Which Result from the Hypothesis of Isotropic Invariance, N. Dushin and I. Shmushkevich - 94.
Salam-Polkinghorne Classification and the Neutron Charge Hypothesis, Ia. P. Terletskii - 303.
Sea Level Spectra of Protons and π^--Mesons, L. I. Potapov and N. V. Shostakovich - 85.
Towards a General Theory of Meson Scattering, A. Brodskii - 701.
Unusual V^0-Decay, E. Fridlender and S. Bercha - 162.

Metals (see Crystalline State)
Metastable Atoms (see Atomic Structure and Spectra)
Methods and Instruments

Bismuth-Lead Alloy Bolometer, M. N. Markov - 317.
Cyclotron with Sectional Magnet, E. M. Moroz - 326.
Direct Measurements of Molecular Attraction Between Solids in a Vacuum, B. V. Deriagin and I. I. Abrikosova - 280.
Distortion of Ultrasonic Waves of Finite Amplitude in Liquids, L. K. Zarembo, V. A. Krasil'nikov and V. V. Shklovskaia-Kordi - 434.
Effect of Radiation on Betatron Oscillations in Strong-Focusing Synchrotons, A. N. Matveev - 211.
Effect of Radiation on Synchrotron Oscillations under Strong Focusing, A. N. Matveev - 321.
Electron Microscopic Study of Thin Films of Antimony by the Dark Field Method, I. G. Stoianova - 65.
Electron Motion in Cyclical Accelerators as a Stochastic Process, A. N. Matveev - 443.
Electron Optical Method of Studying the Dynamics of Thermal Processes in Opaque Media, G. V. Spivak and T. N. Dombrovskaia - 9.
Instrumental Distortion of X-Ray Spectra, M. A. Blokhin - 165.
Low Pressure Diffusion Chamber, A. P. Komar, M. V. Stabnikov and D. A. Iashin - 260.
Measurement of Ion Masses by the Use of Electric Fields, V. B. Fiks - 89.
Measurement of the Dynamical Modulus of Elasticity of Rubber for Very Small Deformations by an Optical Modulation-Interference Method, N. M. Borovitskaia - 493.
Microton with Weak Phasing, E. M. Moroz - 137.
New Engineering Physics Methods for Designing Models and Calculating Trajectories of Relativistic Charged Particles in Electrostatic Fields, A. M. Strashkevich - 330.
New Method of Measuring the Velocity of Light, K. S. Vul'fson - 499.
Observation of the Production and Decay of Unstable Particles in an Emulsion Chamber, V. V. Alpers, I. I. Gurevich and L. V. Surkova - 310.
Physical Fundamentals of Electron-optical Chronography, E. K. Zavoiskii and S. D. Fanchenko - 285.
Regrouping of the Latent Image in the Photographic Action of Ionizing Particles, A. L. Kartuzhanskii - 421.
Sublimation of Silver Studied with Radioactive Tracers and a Mass Spectrometer, Iu. V. Kornev and E. Z. Vintaikin - 203.
Theory of Alternating-Gradient Focusing, E. L. Burshtein and L. S. Solov'ev - 459.

Visualization of Aerodynamic Stremline Flow Around Axially Symmetrical Bodies Through the Use of a Flat Layer of Colored Gas, A. A. Iuzefovich, D. N. Mirshanov and Iu. A. Dunaev - 270.

Molecular Aggregates

Possibility of a Transition Between Two Types of Concentration Quenching of Fluoresence, B. Ia. Sveshnikov, L. A. Kuznetsova and V. A. Molchanov - 484.

Theory of a Real Gas with Noncentral Particle Interaction, A. E. Glauberman - 615.

Molecular Structure and Spectra

Anomalous Dispersion of Light in the Simplest Solutions of Inorganic Compounds, I. S. Gorban' and A. A. Shishlovskii - 249.

Duration of Fluorescence in Mesoderivatives of Anthracene, A. S. Cherkasov, V. A. Molchanov, T. M. Vember and K. G. Voldaikina - 427.

Effect of Intermolecular Interactions on First Order Raman Lines, Ia. S. Bobovich and V. M. Pivovatov - 341.

Electron Energy Levels and Interatomic Distances in Molecules, F. Sh. Shifrin - 32.

Emission Spectrum of Coronene in Solutions at Low Temperatures, E. V. Shpol'skii and L. A. Klimova - 782.

Intensity Distribution in the OH-Band of the Spectrum of Combination Scattering by a Crystal of Gypsum, A. I. Stekhanov - 61.

Method of Investigating the Electronic States of Diatomic Molecules. The Electronic States and Bond Distances of Alkali Metals and their Hydrides, F. Sh. Shifrin - 576.

Phosphorescence Spectra of Some Aromatic Acids at the Temperature of Liquid Air, B. A. Piatnitskii - 451.

Moments, Nuclear (see Nuclear Moments and Spin)

Neutrino

Search for Double Beta Decay in Ca^{48}, E. I. Dobrokhotov, V. R. Lazarenko and S. Iu. Luk'ianov - 600.

Neutrons (see Elementary Particle Interactions)

Nuclear Fission

Fragment Energy Distribution from the Fission of Uranium and Thorium by γ-Rays, V. A. Korotkova, P. A. Cherenkov and I. V. Chuvilo - 104.

Photofission Cross Sections of Uranium and Thorium, V. A. Korotkova, P. A. Cherenkov and I. V. Chuvilo - 77.

Nuclear Forces (see Elementary Particle Interactions; Field Theory; Nuclear Structure Theory)

Nuclear Induction (see Magnetic Resonance)

Nuclear Photoeffects

Fragment Energy Distribution from the Fission of Uranium and Thorium by γ-Rays, V. A. Korotkova, P. A. Cherenkov and I. V. Chuvilo - 104.

Nuclear Reactions, General

Application of Fermi's Equation to the Polarization of Scattered Fast Nucleons - I. I. Levintov - 175.

Dispersion Relation for Fermions, V. Fainberg and E. Fradkin - 455.

Fast Particle Absorption Cross Section of Semi-transparent Nuclei, S. I. Drozdov - 37.

Photoproduction of Slow π^--Mesons in Complex Nuclei, E. G. Gorzhevskaia and N. M. Panova - 757.

Possible Example of Anomalous Decay of a Hyperfragment, A. A. Varfolomeev, R. I. Gerasimova and L. A. Karpova - 579.

Solution of the Problem of the Motion of Three Nucleons in the Limiting Case of Shortrange Forces, G. V. Skorniakov and K. A. Ter-Martirosian - 53.

Nuclear Reactions Induced by Particles and He^3

Study of the Reaction of He^3 with Deuterons, A. P. Kliucharev, B. N. Esel'son and A. K. Val'ter - 475.

Nuclear Reactions Induced by Deuterons and Tritons

Diffractive Scattering of Fast Deuterons, A. I. Akhiezer and A. G. Sitenko - 180.

Nuclear Levels of Li^6, Iu. L. Sokolov, M. M. Sulkovskaia, E. A. Al'bitskaia, and E. I. Karpushkina - 773.

Study of the Reaction of He^3 with Deuterons, A. P. Kliucharev, B. N. Esel'son and A. K. Val'ter - 475.

Nuclear Reactions Induced by Mesons (see also Elementary Particle Interactions; Scattering of Mesons)

Diffusion Chamber Study of Negative Pion Scattering in Hydrogen, M. Kozodaev, R. Suliaev, A. Filippov and Iu. Shcherbakov - 171.

Gamma Radiation from the Collisions of Fast Charged Pions with Nuclei, A. G. Sitenko - 512.

Interaction of 300 Mev π^--Mesons with Protons, Deuterons and Nuclei in Nuclear Emulsions, L. S. Dulkova, T. A. Romanova, I. B. Sokolova, L. V. Sukhov, K. D. Tolstov and M. G. Shafronova - 154.

Interactions of Fast Pions and Nuclei, L. P. Kudrin and B. A. Nikol'skii - 708.

Possible Example of Anomalous Decay of a Hyperfragment, A. A. Varfolomeev, R. I. Gerasimova and L. A. Karpova - 579.

Relations Between Cross Sections for Multiple Pion Production, N. V. Dushin - 128.

Nuclear Reactions Induced by Neutrons

Cross Sections of Inelastic Interactions Between 120 and 380 Mev Neutrons and Nuclei, V. I. Gol'danskii, A. A. Koval'skii, V. S. Pen'kina and E. Z. Tarumov - 16.

Fast Particle Absorption Cross Section of Semi-transparent Nuclei, S. I. Drozdov - 37.

Measurements of the Li^6 (n, t) He^4 Cross Section for Neutrons with Energies from 9 to 700 Kev, G. V. Gorlov, G. M. Bokhberg, V. M. Morozov and G. A. Otroshchenko - 705.

Total Cross Sections for the Interaction of Neutrons with Li^6 and Li^7 from 10 to 450 kev, G. V. Gorlov, B. M. Gokhberg, V. M. Morozov and G. A. Otroshchenko - 598.

Upper Limit of the Radiation Capture Cross Section of 275 Kev Resonance Neutrons by Li^7, E. A. Koltypin and V. M. Morozov - 655.

Nuclear Reactions Induced by Protons

Magnetic Analysis of the Reactions (I) $pp \longrightarrow np\pi^+$, (II) $pp \longrightarrow pp\pi^0$ and (III) $pp \longrightarrow d\pi^+$ at 660 Mev, M. G. Meshcheriakov - 447.

Nuclear Reactions of High Energy Protons in Copper, N. M. Kocharian, G. S. Saakian, M. T. Aivazian, Z. A. Kirakosian and A. S. Aleksanian - 209.

Short-Lived Isomers from Proton Bombardment, O. I. Leipunskii, V. V. Miller, A. M. Morozov and P. A. Iampol'skii - 505.

Total Cross Sections for the Interactions of 650 Mev Protons and Nuclei, V. I. Moskalev and B. V. Gavrilovskii - 607.

Total p-d Cross Section from 390 to 650 Mev, V. P. Dzhelepov and V. I. Moskalev - 565.

Nuclear Scattering (see Scattering)

Nuclear Spectra (see also Nuclear Reactions; Radioactivity)

Determination of Internal Conversion Ratios for the Isomeric Transition of In^{114}, V. M. Kel'man, R. Ia. Metskhvarishvili, V. A. Romanov, L. I. Rusinov and K. A. Konoplev - 189.

Equally Allowed Beta Transitions, B. S. Dzhelepov - 71.

Gamma Radiation from the Collisions of Fast Charged Pions with Nuclei, A. G. Sitenko - 512.

Short-Lived Isomers from Proton Bombardment, O. I. Leipunskii, V. V. Miller, A. M. Morozov and P. A. Iampol'skii - 505.

Nuclear Structure Theory (see also Nuclear Reactions; Nuclear Spectra)

Generalization of the Method of Supplementary Variables, D. N. Zubarev - 437.

Intermediate System Formed During the Scattering of Elementary Particles, M. S. Livshits - 712.

Nuclear Levels of Li^6, Iu. L. Sokolov, M. M. Sulkovskaia, E. A. Al'bitskaia, and E. I. Karpushkina - 773.

Scattering Matrix of an Intermediate System, M. S. Livshits - 620.

Theory of the Excitation Energy of Heavy Nuclei, L. P. Rapoport and Iu. M. Butusov - 387.

Optical Instruments (see Methods and Instruments)

Optical Properties (see also Luminescence)

Anomalous Dispersion of Light in Solutions of Dyes, I. S. Gorban' and A. A. Shishlovskii - 276.

Anomalous Dispersion of Light in the Simplest Solutions of Inorganic Compounds, I. S. Gorban' and A. A. Shishlovskii - 249.

Anomalous Scattering of Light in Glass, A. I. Koliadin - 406.

Determination of the Orientation Relaxation Time of Some Liquids by the Widths of Scattered Lines, M. F. Vuks and A. K. Atakhodzhaev - 496.

Double-Resonance Curves of a Reflection Grating, L. N. Deriugin and G. Kh. Fridman - 761.

Flow Deformation of Macromolecules and its Effect on the Sign of the Dynamic Birefrigence of a Polymer in Solution, E. V. Frisman and V. N. Tsvetkov - 12.

Graphical Method of Calculation of Multilayer Films, P. G. Kard - 256.

Intensity Distribution in the OH-Band of the Spectrum of Combination Scattering by a Crystal of Gypsum, A. I. Stekhanov - 61.

Isotropic Shift in the Spectrum of He II, P. S. Kireev - 316.

Measuring the Resolving Power of an Optical Instrument, S. G. Rautian - 481.

Opalescence in the Phase Transition of Quartz, I. A. Iakovlev, T. S. Velichkina and L. F. Mikheeva - 215.

Optical Absorption in Compounds of Metals of the First and Second Groups of the Periodic Table and the Energy of the Crystalline Lattice, A. A. Vorob'ev - 242.

Preparation and Dielectric and Optical Properties of Single Crystals of Solid Solutions of Barium and Strontium Titanates, A. L. Khodakov, M. L. Sholokhovich, E. G. Fesenko and O. P. Kramarov - 379.

Reflection and Transmission of 7-24 μ Waves by Silica Modifications, N. A. Sevchenko and V. A. Florinskaia - 508.
Some Optical Properties of New Rare-Earth Activated Zinc Sulfide Phosphors, Z. A. Trapeznikova and V. V. Shchaenko - 28.
Spectrophotometric Method of Investigating Dispersion and Absorption by Solids, M. P. Lisitsa - 716.
Theory of Multilayer Two-Component Dielectric Coatings, V. V. Sukhanovskii - 24.
Transmission of Radiation Through an Inhomogeneous Medium, V. V. Sobolev - 747.
Pair Production (see Electrons and Positrons)
Phosphors and Phosphorescence (see Luminescence; Semiconductors)
Photoconductivity (see Electrical Conductivity and Resistance)
Photodisintegration (see Nuclear Photoeffects)
Photoelectric Effect (see Electrical Properties)
Photography and Photographic Emulsions (see Methods and Instruments; Optical Properties)
Photometry (see Methods and Instruments; Optical Properties)
Photons (see Radiation)
Photovoltaic Effect (see Electrical Properties; Semiconductors)
Piezoelectric Effect (see Dielectrics and Dielectric Properties)
Polarization, Electrical (see Dielectrics and Dielectric Properties)
Positrons (see Electrons and Positrons)
Probability (see Mathematical Methods)
Protons (see Elementary Particle Interactions)
Quantum Electrodynamics (see also Field Theory)
Asymptotic Investigation of the Vertex Part in Quantum Electrodynamics, V. Z. Blank and D. V. Shirkov - 752.
Classification of Nonlinear Equations and Relativistically Invariant Interactions According to Representations of the Lorentz Group and the Theory of Fusion, G. A. Sokolik - 57.
Effect of Quantum Fluctuations of Radiation on Electron Motion in Periodic Magnetic Systems, A. A. Kolomenskii - 192.
Effect of Radiation on the Motion of a Relativistic Electron in a Magnetic Field, A. A. Kolomenskii and A. N. Lebedev - 100.
Expansion of a Wave Function in Irreducible Representations of the Lorentz Group, I. S. Shapiro - 91.
Infrared Asymptotic Form of the Green's Function for Electrons to Order e^4, L. D. Solov'ev - 536.
New Type of Relativistically Invariant Linear Equation of a Localizable Field, R. S. Ingarden - 252.
Nonlinear Generalization of the Dirac Spinor Equation, D. Ivanenko and M. Mirianashvili - 41.
Nonrelativistic Regularization of the S-Matrix, B. M. Stepanov - 396.
Positron Annihilation in Metals, V. I. Karpman and I. Z. Fisher - 765.
Potential in Pair Theories of Nuclear Forces, Iu. M. Lomsadze - 571.
Relativistic Invariance in Quantum Theory, Iu. M. Shirokov - 777.
Salam-Polkinghorne Classification and the Neutron Charge Hypothesis, Ia. P. Terletskii - 303.
Spectral Representation and the Renormalization Group, A. A. Logunov - 478.
Vertex Part at High Energies, V. Z. Blank - 184.
Vertex Parts in Scalar Electrodynamics in the Large Momentum Region, A. A. Logunov - 20.
Quantum Mechanics
Determination of Eigenvalues of Physical Quantities by Means of a Quantum Mechanical Distribution Law, Iu. L. Klimontovich - 383.
Excitation of Macroscopic Oscillations by Quantum Fluctuations, A. A. Sokolov, D. D. Ivanenko and I. M. Ternov - 658.
Indirect Exchange Interaction, S. V. Vonsovskii and Iu. M. Selidov - 149.
Nonlinear Generalization of the Dirac Spinor Equation, D. Ivanenko and M. Mirianashvili - 41.
Quenching of Radiation (see Radiation)
Radar (see Methods and Instruments; Radiation)
Radiation (see also Range and Energy Loss of Particles)
Effect of Radiation on the Motion of a Relativistic Electron in a Magnetic Field, A. A. Kolomenskii and A. N. Lebedev - 100.
Elastic Scattering of Gamma Rays with Energy to 120 Mev by Protons, B. B. Govorkov, V. I. Gol'danskii, O. A. Karpukhin, A. V. Kutsenko, and V. V. Pavlovskaia - 735.
Energy Distribution of Inconerent Radiation from Synchrotron Electrons, Iu. M. Ado and P. A. Cherenkov - 517.
Excitation of Macroscopic Oscillations by Quantum Fluctuations, A. A. Sokolov, D. D. Ivanenko, and I. M. Ternov - 658.
Experimental Investigation of the Angular Distribution and Polarization of Optical Radiation from Electrons in a Synchrotron, F. A. Korolev, V. S. Markov, E. M. Akimov and O. F. Kulinkov - 568.
Radiation from a Plasma Electron in Uniform Motion in a Magnetic Field, A. A. Kolomenskii - 133.

Radioactivity (see also Nuclear Spectra)
Enrichment of Radioactive Isotopes of Iodine, Germanium, Arsenic, and Antimony by (γ, n) Reactions, A. N. Murin, V. D. Nefedov, V. I. Baranovskii and D. K. Popov - 719.
Neutron Emission from a Short-Lived Radon Active Deposit, A. V. Kogan - 372.
Search for Double Beta Decay in Ca^{48}, E. I. Dobrokhotov, V. R. Lazarenko and S. Iu. Luk'ianov - 600.
Range and Energy Loss of Particles
Radiation from a Plasma Electron in Uniform Motion in a Magnetic Field, A. A. Kolomenskii - 133.
Rectifiers (see Electrical Conductivity and Resistance; Semiconductors)
Relativity and Gravitation
Chronometric Invariants and Frames of Reference in the General Theory of Relativity, A. L. Zel'manov - 227.
Experimental Verification that the Velocity of Light is Independent of the Velocity of the Source with Respect to an Observer, A. M. Bonch-Bruevich - 430.
Nonlinearity and Conformal Reciprocity, Andrei Popovich - 628.
Resistance, Electrical (see Electrical Conductivity and Resistance)
Resonance Radiation (see Radiation)
Scattering, General (see also Elementary Particle Interactions; Nuclear Reactions; Range and Energy Loss of Particles)
Damped Scattering of Spinless Particles, A. A. Sokolov and B. K. Kerimov - 345.
Dispersion Relation for Nucleon-Nucleon Scattering, F. M. Kuni - 686.
Intermediate System Formed During the Scattering of Elementary Particles, M. S. Livshits - 712.
Scattering Matrix of an Intermediate System, M. S. Livshits - 620.
Scattering of Mesons (see also Nuclear Reactions Induced by Mesons)
Interaction of 300 Mev π^--Mesons with Protons, Deuterons and Nuclei in Nuclear Emulsions, L. S. Dulkova, T. A. Romanova, I. B. Sokolova, L. V. Sukhov, K. D. Tolstov and M. G. Shafronova - 154.
Meson-Meson Scattering in Meson Field Theory, V. V. Sudakov - 662.
Scattering of Positive and Negative 300-Mev Pions by Hydrogen, L. S. Dul'kova, I. B. Sokolova and M. G. Shafranova - 739.
Scattering of Protons (see also Nuclear Reactions Induced by Protons)
Polarization of Low-Energy Protons Scattered by Carbon, B. V. Gavrilovskii, V. Ia. Golovnia, K. V. Karadzhev, A. P. Kliucharev, and V. I. Man'ko - 611.
Polarization of Protons Scattered Elastically by C^{12}, P. V. Sorokin and A. Ia. Taranov - 637.
Small Angle Elastic Proton-Proton Scattering at 460, 560 and 660 Mev, N. P. Bogachev - 361.
Scattering of Radiation (see Radiation)
Scintillation Counters (see Methods and Instruments)
Secondary Emission (see Electrical Properties)
Semiconductors
Characteristic Times of Electronic Processes in Semiconductors, E. I. Adirovich and G. M. Guro - 306.
Increasing the Efficiency of Semiconductor Thermocouples, A. F. Ioffe, S. V. Airapetiants, A. V. Ioffe, N. V. Kolomoets and L. S. Stil'bans - 132.
Magnetoresistance and Hole Conduction in Tellurium, S. S. Shalyt - 488.
Relaxation of Photoconductivity in Stannic Oxide, A. I. Andrievskii and V. A. Zhuravlev - 239.
Theory of the Spontaneous Magnetization of Ferromagnetic Semiconductors at Low Temperatures, E. I. Kondorskii, A. S. Pakhomov and T. Shiklosh - 501.
Transverse Photomagnetic Effect in n- and p-Type Germanium, I. K. Kikoin, and Iu. A. Bykovskii - 473.
Solid State (see Crystalline State)
Solutions (see Liquids)
Sound (see Acoustics)
Spallation (see Nuclear Reactions)
Spark Discharge (see Electrical Discharges)
Spectra, Atomic (see Atomic Structure and Spectra)
Spectra, General
Effect of Reabsorption on the Breadth of Spectral Lines, L. M. Biberman and E. M. Novodvorskaia - 5.
Fine and Hyperfine Structure of Paramagnetic Resonance in Bivalent Europium, A. A. Manenkov and A. M. Prokhorov - 196.
Isotope Shift in the Spectrum of Neodymium, F. A. Korolev and Iu. I. Osipov - 549.
Linear and Quadratic Zeeman Effects and Exciton Diamagnetism of Copper Oxide Crystals, E. F. Gross and B. P. Zakharchenia - 678.
Relative Intensities of Fine Structure Components in Rayleigh Scattering of Light, I. L. Fabelinskii - 115.

Relative Intensity of the Fine Structure Components of He λ 4686 A. P. S. Kireev - 74.
Spectra, Nuclear (see Nuclear Spectra)
Spectroscopy Technique (see Methods and Instruments)
Spinor Fields (see Field Theory)
Stark Effect (see Atomic Structure and Spectra)
Statistical Mechanics and Thermodynamics
Application of the Detailed Balancing Ratio $\sigma_{12}\sigma_{31}\cdot\sigma_{23} / \sigma_{21}\sigma_{13}\cdot\sigma_{32} = 1$ to an Ion Beam of Fixed Composition, M. I. Korsunskii, Kh. L. Leviant and L. I. Pivovar - 206.
Energy Spectrum of He^3 Dissolved in He II, N. G. Berezniak and B. N. Esel'son - 645.
Gauge-Invariant Analogue of the Wigner Distribution, R. L. Stratonovich - 414.
Hyperfine Structure of Paramagnetic Resonant Lines in Supercooled Solutions of $^{51}V^{++}$, $^{53}Cr^{++}$ and $^{55}Mn^{++}$, N. S. Garif'ianov - 463.
Single Basic Equation in the Theory of Irreversible Thermodynamic Processes, Kiril A. Popov - 50.
Thermal Agitation in Distributed Systems, S. M. Rytov - 55.
Statistical Methods (see Mathematical Methods)
Superconductivity
Critical Current in Thin Superconducting Films, L. A. Feigin and A. I. Shal'nikov - 377.
Macroscopic Theory of Superconductivity for All Temperatures, V. L. Ginzburg - 541.
Thermal Properties
Electron Optical Method of Studying the Dynamics of Thermal Processes in Opaque Media, G. V. Spivak and T. N. Dombrovskaia - 9.
Heat Capacity of Layer Lattices at Low Temperatures, E. S. Itskevich and P. G. Strelkov - 98.
Increasing the Efficiency of Semiconductor Thermocouples, A. F. Ioffe, S. V. Airapetiants, A. V. Ioffe, N. V. Kolomoets and L. S. Stil'bans - 132.
λ Point of Solutions of Helium Isotopes, B. N. Esel'son, N. G. Berezniak, and M. I. Kaganov - 683.
Relation of the Physical Properties of Crystal to Molecular Concentration, P. A. Savintsev - 591.
Thermionic Emission (see Electrical Properties)
Thermodynamics (see Statistical Mechanics and Thermodynamics)
Thermoelectric Effect (see Electrical Properties; Semiconductors)
Thermoluminescence (see Luminescence)
Total Cross Sections (see Electrons and Positrons; Nuclear Reactions)
Uncertainty Principle (see Quantum Mechanics)
Vacuum Tubes (see Methods and Instruments)
Viscosity (see Liquids)
Wave Mechanics (see Quantum Mechanics)
Work Function (see Electrical Properties)
X-Rays
Instrumental Distortion of X-Ray Spectra, M. A. Blokhin - 165.
True Shape of X-Ray Spectra, M. A. Blokhin - 145.
X-Ray Emission at the Start of a Gas Discharge, I. M. Podgornyi - 375.
X-Ray Emission Spectra of Mn and Cu in a Heusler Alloy at Temperatures Around the Curie Point, E. E. Vainshtein and B. I. Kotliar - 527.

ERRATA, DOKLADY PHYSICS, Vols. 106-111, 1956

Page	Line	Reads	Should read
146	11 from top	$C_l = \exp\left(-\frac{l\gamma\pi}{2a}\right) - \frac{l\gamma}{2a}\,\mathrm{sl}\,\frac{l\pi}{2}$	$C_l = \exp\left(-\frac{l\gamma\pi}{2a}\right) - \frac{l\gamma}{a}\,\mathrm{sl}\,\frac{l\pi}{2}$.
576	18 from top	Tl = 60000	Tl = 62000
	Table 1, last line, term T_k	24663	14663
577	Table 2		
	Molecule / Term		
	Li_2 T_2	20437	20436
	Na_2 T_9	R 45846	R 35846
	K_2 T_3	(17978)	(17984)
	NaK T_1	12140	12140
	NaCs T_3	18249	18249
	RbCs T_2	13747[7]	137477
	NaH T_2	31797[15]	31796[15]
616		Equation (9) should read as follows:	

$$k'_s = -\frac{(C_1^0)^s}{4\pi}\int\left\{1 + \frac{1}{4\pi}\sum_{i=1}^{s}\int l_{i,s+1}F_1^0(i)\,d\Omega_i\right\}F_1^0(s+1)\,d\,q_{s+1}d\Omega_{s+1},$$

630	Item 6, first line	ρ = C exp ($\neq \omega/2$)	ρ = C exp ($\pm \omega/2$)
736	14 from top	FEU-19-II	FEU-19-M
738		Received June 14, 1956	Received August 14, 1956

TABLE OF CONTENTS

Author Index for Vol. 1, 1956 1

Analytic Subject Index for Vol. 1, 1956 8

Errata 20

SIGNIFICANCE OF ABBREVIATIONS MOST FREQUENTLY ENCOUNTERED IN SOVIET PHYSICS PERIODICALS

AN SSSR	*Academy of Sciences, USSR*
FIAN	*Physics Institute, Academy of Sciences USSR*
GITI	*State Scientific and Technical Press*
GITTL	*State Press for Technical and Theoretical Literature*
GOI	*State Optical Institute*
GONTI	*State United Scientific and Technical Press*
Gosenergoizdat	*State Power Press*
Gosfizkhimizdat	*State Physical Chemistry Press*
Gozkhimizdat	*State Chemistry Press*
GOST	*All-Union State Standard*
Gostekhizdat	*State Technical Press*
GTTI	*State Technical and Theoretical Press*
GUPIAE	*State Office for Utilization of Atomic Energy*
IF KhI	*Institute of Physical Chemistry Research*
IFP	*Institute of Physical Problems*
IL	*Foreign Literature Press*
IPF	*Institute of Applied Physics*
IPM	*Institute of Applied Mathematics*
IREA	*Institute of Chemical Reagents*
ISN (Izd. Sov. Nauk)	*Soviet Science Press*
IIaP	*Institute of Nuclear Studies*
Izd	*Press (publishing house)*
KISO	*Solar Research Commission*
LETI	*Leningrad Electrotechnical Institute*
LFTI	*Leningrad Institute of Physics and Technology*
LIM	*Leningrad Institute of Metals*
LITMiO	*Leningrad Institute of Precision Instruments and Optics*
Mashgiz	*State Scientific-Technical Press for Machine Construction Literature*
MATI	*Moscow Aviation Technology Institute*
MGU	*Moscow State University*
Metallurgizdat	*Metallurgy Press*
MOPI	*Moscow Regional Institute of Physics*
NIAFIZ	*Scientific Research Association for Physics*
NIFI	*Scientific Research Institute of Physics*
NIIMM	*Scientific Research Institute of Mathematics and Mechanics*
NII ZVUKSZAPIOI	*Scientific Research Institute of Sound Recording*
NIKFI	*Scientific Institute of Motion Picture Photography*
OIIaI	*Joint Institute of Nuclear Studies*
ONTI	*United Scientific and Technical Press*
OTI	*Division of Technical Information*
OTN	*Division of Technical Science*
RIAN	*Radium Institute, Academy of Sciences of the USSR*
SPB	*All-Union Special Planning Office*
Stroiizdat	*Construction Press*
URALFTI	*Ural Institute of Physics and Technology*

NOTE: Abbreviations not on this list and not explained in the translation have been transliterated, no further information about their significance being available to us.—*Publisher.*

The expanded program of the American Institute of Physics comprises translation of four leading Soviet physics journals, as listed below. These translations, by competent, qualified scientists, provide all research laboratories and libraries with accurate and up-to-date information of the results of research in the U.S.S.R.

Soviet Physics – Technical Physics

A translation of the "Journal of Technical Physics" of the Academy of Sciences of the U.S.S.R. The translation began with the 1956 issues, and is being continued. Twelve issues per year, approximately 3,000 Russian pages. Annually $90.00 domestic, $95.00 foreign.

Soviet Physics – Acoustics

A translation of the "Journal of Acoustics" of the Academy of Sciences of the U.S.S.R. The translation began with the 1955 issues. Four issues per year, approximately 400 Russian pages. Annual price, beginning with the 1957 issues, $12.00 domestic, $14.00 foreign. Prices for each volume prior to 1957, $20.00 domestic, $22.00 foreign.

Soviet Physics – "Doklady"

A translation of the "Physics Section" of the Proceedings of the Academy of Sciences of the U.S.S.R. The translation began with the 1956 issues. Six issues per year, approximately 900 Russian pages. Annually $25.00 domestic, $27.50 foreign.

Soviet Physics – JETP

A translation of the "Journal of Experimental and Theoretical Physics" of the Academy of Sciences of the U.S.S.R. Translation began with the 1955 issues. Twelve issues per year, approximately 4,000 Russian pages. Annual price, beginning with the 1957 issues, $75.00 domestic, $79.00 foreign. Prices for back volumes may be obtained from the American Institute of Physics upon request.

Subscriptions should be addressed to the American Institute of Physics, 335 East 45th Street, New York 17, N. Y.